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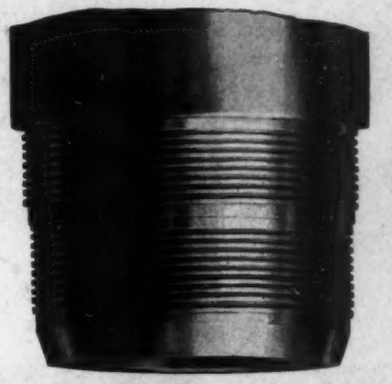

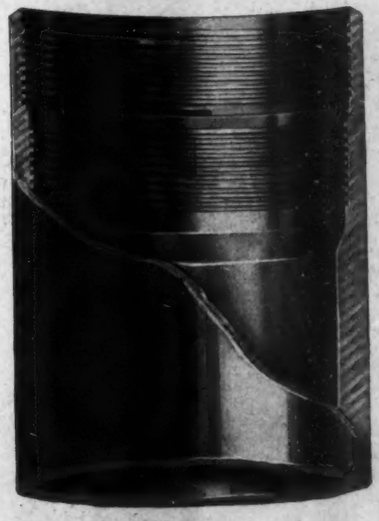

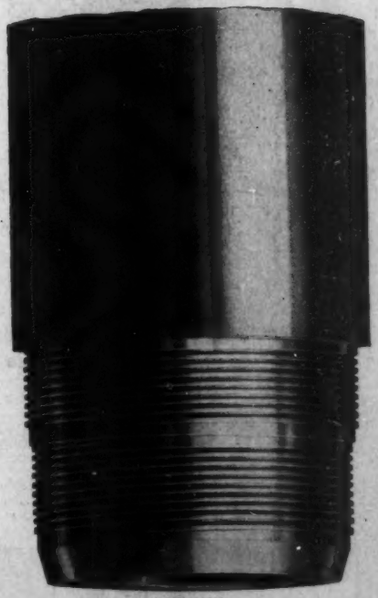

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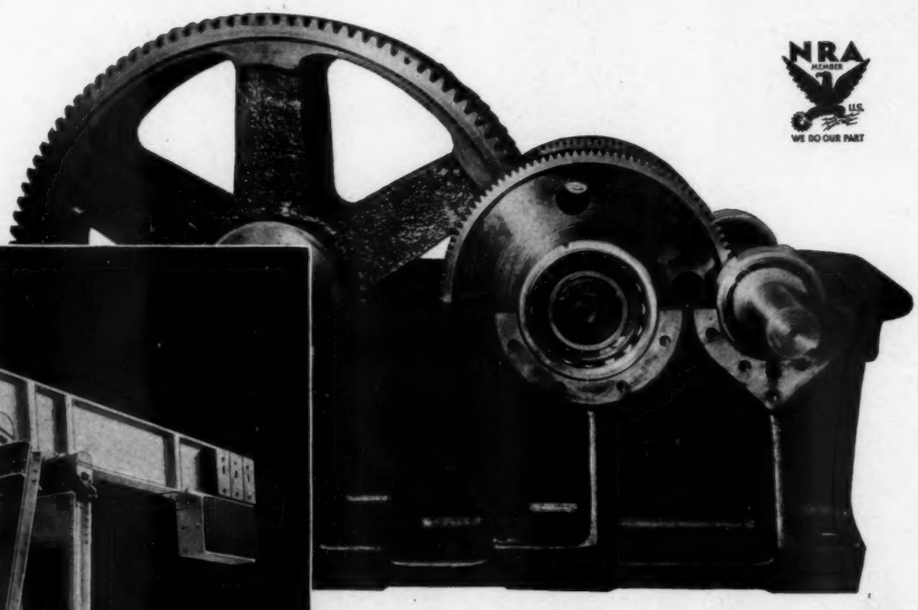

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Reduced Allowable Production Goes Into Effect With Industry Prepared to Conform to It

By JAMES McINTYRE

WITH the allowable production of oil in the United States pegged at 2,210,000 bbls. per day in December by the Federal Oil Administration, producers entered the December period with a production total very close to that figure, the total for the week ending December 2 having been reported at 2,214,507 bbls. per day, a decrease of 55,361 bbls. per day from the figures of the previous week. The early part of December may see a considerable increase over last week's figures because of the custom in some fields of producing a large proportion of the allowable early in the month, and putting the lid on later in the month.

The producing situation in all the fields in the country appears to be well in hand with the exception of East Texas. That field is said to be producing from 20,000 bbls. a day upward of unreported oil. Estimates of this unreported or "hot" oil run as high as 80,000 bbls. a day, and producers who have been playing fair are wondering why something has not been done about it. Government agents are credited with diligently investigating the rumors and charges, but it is not reported that they have started any prosecutions. So much is being said and written about this alleged "hot" oil movement that those in charge of the production situation in Texas should either prove the falsity of the reports or act against the violators of the code.

Monday, December 4, marked the fifth birthday of the Oklahoma City Field. It has produced 180,000,000 bbls. of oil, but is rapidly declining, and it is believed by some engineers that the field will be on the pump or air or gas lift by the middle of next year.

Field work in Oklahoma is increasing steadily, especially in the Greater Seminole and the Creek County areas. No important completions were reported in the state in the past week, nor in Kansas. In the latter state new operations are slowing down.

In the Gulf Coast Field the most interesting news of the week was the entrance of the Humble Oil & Refining Co. into the Conroe Field through the purchase of 651 acres of leases for which it is reported to have paid $3,225,000 in cash and oil.

Late reports from Washington encourage the belief that the difference of opinion within the industry as to methods of management of the oil business may be ironed out before Thursday noon, Secretary Ickes' dead line. If an agreement is not reached the Secretary says he will fix a date for the commencement of hearings on the proposed minimum price schedule on crude oil and oil products and that the hearings will be carried through.

Crude Oil Production in the United States

Estimated daily average production for the week ending December 2, and a comparison with previous week and one year ago, follows:

	Dec. 2	Nov. 25	Dec. 3, 1932
Oklahoma—			
Oklahoma City	119,845	185,865	63,480
Seminole-St. Louis	94,340	104,305	104,515
Remainder of State	207,565	207,590	200,120
Total Oklahoma	421,750	497,760	368,115
East Texas—			
Lathrop	176,768	175,749	139,605
Kilgore	128,482	127,742	108,396
Joiner	114,627	113,965	115,715
Total East Texas	419,877	417,456	363,716
West Texas	121,293	121,704	164,422
North Central Texas	81,174	81,388	72,115
Texas Panhandle	40,055	40,362	49,037
East Central Texas	43,288	43,479	49,053
Gulf Coast—Texas	152,645	154,235	147,118
Southwest Texas	43,555	43,292	57,346
Total State of Texas	901,887	901,916	902,807
Kansas	114,710	116,320	95,580
North Louisiana	26,315	26,190	28,400
Gulf Coast—Louisiana	47,497	47,437	33,806
Arkansas	32,258	33,325	33,500
Eastern Fields	125,000	123,000	117,000
Rocky Mountain area	80,090	80,920	74,567
California—			
Santa Fe Springs	34,900	34,750	57,500
Long Beach	55,500	55,000	68,750
Playa Del Rey	8,200	8,400	13,250
Elwood	12,900	12,750	12,500
Kettleman Hills	45,000	30,250	62,000
Remainder of State	308,500	301,850	255,000
Total California	465,000	443,000	469,000
Total United States	2,214,507	2,269,868	2,122,775

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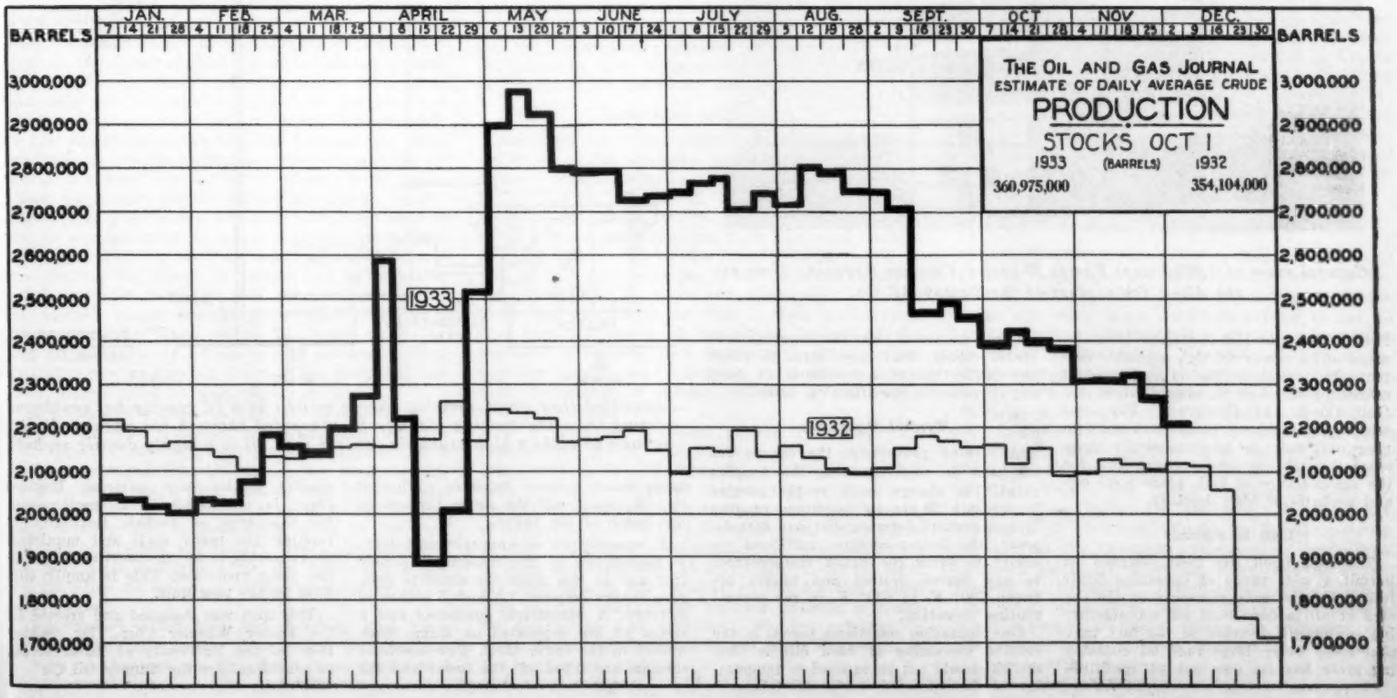


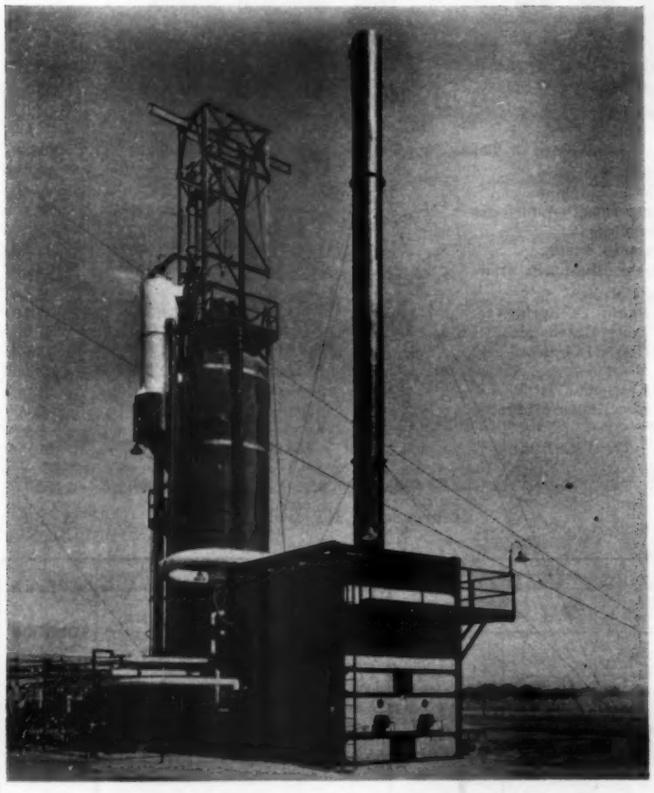
Simple, Compact and Unusually Flexible Vacuum Asphalt Unit Completed at Sunray Refinery

By W. T. ZIEGENHAIN

The Sunray Oil Co. recently placed in service a 1,000-bbl Foster Wheeler vacuum residuum flashing unit for the production of high asphaltic content road oils and asphalt. Flexibility, compactness, simplicity and economy of operation are features which have been especially well incorporated in its design to meet the particular needs of the plant.

The unit is the latest addition to the company's 6,500-bbl. refinery located at Allen, Okla., through which crude is processed as it is produced from the company's local wells.

The crude itself has unusual characteristics, considering the location of the field within the Mid-Continent area, because of its relatively high asphaltic content. It resembles the typical asphalt crudes produced in Arkansas, along the Gulf Coast and California. For that reason, the residuum made from the topping unit may be advantageously processed through the new vacuum unit for the manufacture of high grade road oils and asphalts of high ductility.



General view of 1,000-barrel Foster Wheeler Vacuum Reducing Unit at the Allen, Okla. plant of the Sunray Oil Co.

Unit Is Flexible

The unit itself has been designed to permit a wide range of operating flexibility. This is made necessary in the design of all modern road oil manufacturing equipment, because of the fact that practically every large road oil consuming state has its own set of specifications. Almost without exception, there is some point of difference in each.

For this reason it is difficult to outline more than a typical set of operating data to describe the routine operation of this unit.

During the several months' operation of this particular unit it has been making road oils to meet the widely different specifications of various states, counties and municipalities. Road oils of any desired asphalt content can be manufactured. Usual production ranges in asphaltic content from 45 to 75 per cent of 100 penetration residue. From the following general description of the equipment and operation it will be seen that the several points of control make it an easy matter to vary the charging rate, steam supply, heat input, etc., to effect the production of a residuum of most any reasonable specification range.

Typical Operation

As stated previously, the charge for the unit is received from the topping plant. The charge comes to the tubular heater as a 20 gravity residuum, ranging in temperature between 450 and 600 degrees. The heater contains sufficient capacity to bring the outlet temperatures to any degree desired and ranges between 700° F. to 830° F. in the normal routine operation.

One limitation sometimes placed in the routine processing of road oils is that the oil should not be exposed to temperatures in excess of 700° F. When such a specification is demanded, the unit is flexible enough so that by retarding the charging rate slightly to increase the time element, and by reducing the heat input, complete reduction of the residuum can be affected at this low temperature.

The heater itself is relatively small as may be seen in the accompanying picture, but convection and radiant sections have been built into the unit to affect the greatest economy of fuel. Live steam is introduced into the charge at the radiant section. This promotes maximum heat absorption and vaporization before the heated body enters the fractionating tower. This live steam enters the charge at the radiant section under a pressure of about 100 pounds. This is considerably in excess of the back pressure on the tubes at that point so relatively large quantities of steam may be injected if needed.

Exhaust steam, superheated in a small superheater within the oil heater, is also used to aid in the reducing action. This steam enters the tower by means of an open coil in the bottom.

The charge of hot oil from the heater enters the tower through a pipe welded tangentionally through the tower shell to bring about a more intimate mixing of the oil vapors and the steam throughout the length of the tower.

A temperature of approximately 600° is maintained at the uppermost bubble tray and at this point the absolute pressure ranges between 1.5 and 2 inches of mercury. A barometric condenser and a steam jet are supported on frame work welded to the tower shell. Two overhead streams are taken off the tower and the residuum is withdrawn continuously as a high asphalt content material of any desired penetration.

The upper or lighter stream of distillate taken off the tower is a 23.5 to 24 gravity gas oil. This cut is liquefied in the tubular exchanger which forms the upper end of the tower shell. The gas oil has an especially low Conradson carbon content, is light in color and because of the crude, has a relatively low pourpoint.

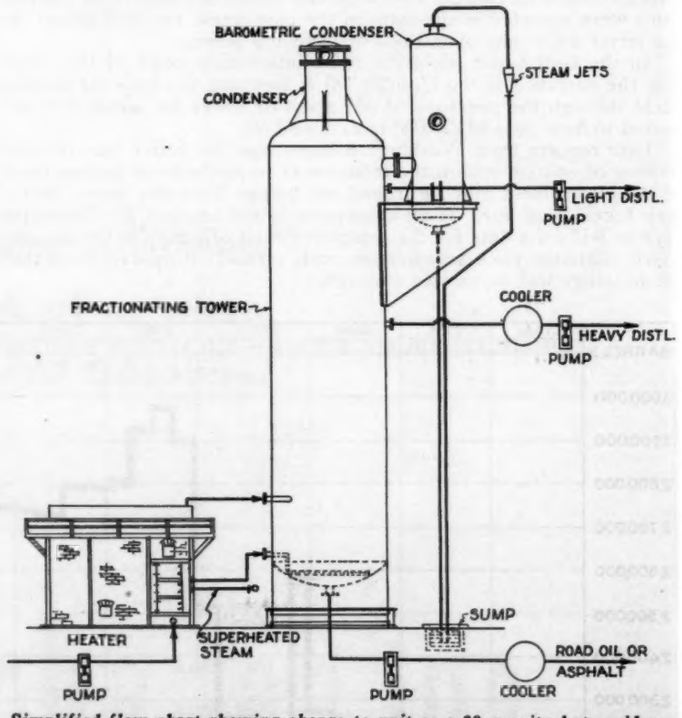
The heavier sidestream is taken off at a point about midway up the tower and is a 20 to 21 gravity lubricating oil distillate. This distillate is not at present processed further at the Sunray plant but is sold to other plants.

Typical Yields

When running to penetration asphalt, a typical yield from the unit would show approximately 30 per cent of the charge converted into an asphalt of 100 penetration, approximately 45 per cent lubricating oil distillate, about 24 per cent overhead gas oil of 24 gravity and a loss of not more than 1 per cent.

In preparing the various grades of cut-back asphalts which have gained so much popularity over the past few years, Sunray is supplied with a wide range of quality in its base material. Because there is no standardized specifications for this type of asphalt flexibility in meeting the many state and municipal requirements is an all-essential factor in the plant operation. This is amply supplied by the new unit.

This unit was designed and erected by the Foster Wheeler Corp., Dr. Sidney Born of the University of Tulsa acting as consultant for the Sunray Oil Co.



Simplified flow chart showing charge to unit as a 20 gravity hot residuum coming from the topping plant to be processed through the vacuum flashing unit to make a high asphaltic content road oil or a highly ductile asphalt

Hopes for an Agreement Rising at Washington as the Date for Price Hearing Is Postponed

By ANDREW M. ROWLEY

WASHINGTON, D. C., Dec. 4.—New efforts, inaugurated here today, to compose differences of opinion within the oil industry on the question as to whether the Federal Government should establish minimum prices for crude oil and its products, give greater promise of reaching some kind of an agreement on the controversal subject than had been thought possible since the conferences held in New York during the past three weeks broke up on Wednesday, November 29, with any agreement apparently out of the question.

Leaders of the industry are meeting here tonight in the first of a series of conferences which both sides of the price question hope will result in an agreement before Thursday which they can present to Harold L. Ickes, Secretary of the Interior and oil administrator, and which will be acceptable to him.

The industry today was given until noon Thursday by Mr. Ickes to "try to agree on a method of management of the petroleum industry." He made it plain to both sides of the price fixing question that the extension until noon Thursday is the final one. After reports of present negotiations are submitted to him by Thursday or before he said he would announce his determination on whether and when the hearings on the price fixing schedule would begin.

In a statement issued by Mr. Ickes, after a conference he had this morning with groups of oil executives representing both sides of the price fixing question, he said:

"I informed them that there would be no additional extensions of time. If there cannot be agreement within the industry on the fundamental principles involved, a date for beginning the hearings on the proposed price schedule will be set and the hearings will be carried through.

"If an agreement is reached on or before Thursday which is acceptable to me the proposed price schedule may be postponed for a definite period to permit trial of the agreement worked out by the various elements in the industry. The negotiations will in no way interfere with the vigorous carrying out of administrative orders to hold production in accord with demand."

Two Possible Solutions

There are two possible solutions of the present disagreement within the oil industry on the question of the Government's fixing minimum prices, either of which would probably result in a postponement for 90 days or longer of the hearings scheduled on the price schedules and the question of the Government establishing any prices. One, naturally, is for the conferences now being held by the oil company executives to agree among themselves on a plan which will be acceptable to Mr. Ickes. The other which has been mentioned is that the oil administrator be given reports covering the three phases of the problem—each side of the question stating the things it desires and to which it subscribes and to which the other side objects; and another report covering points upon which both sides agree. In other words Mr. Ickes would be told on what points all agree and on what points they disagree and would know what each side desires incorporated in any plan approved.

If present negotiations fail of agreement it is thought in some quarters Mr. Ickes may ask for such reports covering matters in agreement and disagreement and that he may, under such circumstances, formulate a plan himself and issue a plan to the industry as the course it must follow. Those who mention such a possibility point to the fact the administration practically wrote the code for the petroleum industry after the industry's seeming inability to agree on different features to be incorporated.

Conferences which had been held in New York for the past three weeks in an effort to formulate a plan to present to Mr. Ickes apparently had reached an agreement on November 28. That plan, it is understood, contemplated the establishment of a pool which would be responsible for the taking care of any surplus crude oil or gasoline which threatened the stability of the market and all would agree on production limitations which would be in line with the administration's desire to balance production and consumer demand and also would limit inventories to a healthy figure. On Wednesday, November 29, however, the conference broke up without any agreement being reached.

Fundamental Point

A fundamental point of difference, according to rumors, was on the point of maintaining crude oil prices at present levels during the period of trial of the plan, a period set at 90 days by the oil administrator. It was felt curtailment of production to consumer requirements would maintain the crude oil market but a definite agreement could not be made that crude oil prices would not be lowered during the trial period.

Hearings on the schedule of prices announced by Mr. Ickes were scheduled originally for November 20. On that date these hearings were postponed until December 5, to permit proponents and opponents of the question of having the Government establish minimum prices to get together to try to formulate a plan which might obtain the same result as if minimum prices were fixed. The Planning and Co-ordination Committee under the code for the petroleum industry consented to this delay of the hearings. That committee has taken a leading part in efforts to have the Government establish minimum prices. On their part it was felt such action would quickly stabilize conditions in the industry which had caused much of the trouble and would eliminate at once price wars and the cutting of prices.

The formulation of a plan, satisfactory to the oil administrator, would eliminate the necessity of holding hearings on the proposed price schedules and both sides of the price fixing question were anxious, in the interest of harmony to try to reach a satisfactory agreement.

Failure of the conferences in New York brought the matter up to the oil administrator today as the hearings had been set, in a previous order, for tomorrow. However, opponents of the plan of having the Government establish prices reached here this morning and Secretary Ickes met both sides in his office for an hour's conference.

Conference With Ickes

Attending that conference were Wirt Franklin, chairman of the Planning and Co-ordination Committee; Judge Amos L. Beaty, K. R. Kingsbury, E. B. Reeser, Walter C. Teagle, W. S. Farish, Judge C. B. Ames, W. M. Irish, J. C. van Eck, E. G. Seubert, Luke Stevens, J. N. Pew, and Nathan R. Margold, solicitor of the Interior Department. It was at that conference Mr. Ickes gave the industry until Thursday to reach an agreement. Tonight these men are having the first of their conferences. The fact this group of recognized leaders of the industry came here in a last-minute effort to get together makes many believe they will compose their differences of opinion and that an agreement will be reached.

E. B. Swanson, member of the Petroleum Administrative Board, the Federal agency under the code, with A. W. Walker, Jr., attorney connected with the board, attended the conference of oil men tonight as observers with the purpose, it is thought, of reporting to Secretary Ickes progress being made by the conference. Attendance at the conference of such observers was at invitation of the oil men. Mr. Swanson is the member of the Federal board who handles particularly matters relating to crude oil production and refining. Matters relating to these branches of the business were discussed at the conference tonight.

At a second conference, to meet at 10 o'clock tomorrow morning, matters relating to marketing will be discussed and Dr. John W. Frey, member of the Petroleum Administrative Board, and Mr. Walker will represent the Federal Government as observers. A subcommittee of oil men is working on problems relating to marketing.

At adjournment of tonight's conference, shortly after midnight, the impression seemed to be more widespread that the present sessions would reach an agreement which could be presented to Secretary Ickes on or before Thursday noon and that such an agreement would be satisfactory to him. Exceptional progress was made tonight in composing whatever differences in opinion that may have existed on questions relating to production and refining.

Agreement Probable

As one man said today: "Well, it looks as if they mean business this time."

One oil man who had taken part in the New York conferences and who apparently had felt late last week that an agreement was entirely out of the question, remarked tonight: "I believe it now is more probable an agreement will be reached."

Mr. Teagle, when asked if he thought the present meetings would result in an agreement said:

"I am optimistic. You know I am always an optimist. If I weren't I wouldn't be in the oil business."

Secretary Ickes would not commit himself further than his prepared statement but when seen after his conference this morning with the oil men he did not give the impression he was any too hopeful an agreement would be reached within the time limit he set. He said: "I never count my chickens until they are hatched."

The fact no agreement had been reached after the length of time devoted to past conferences seemed to make him feel it would not be surprising if the present meetings also failed to adjust differences of opinion. The impression prevails the Secretary is somewhat reluctant to establish prices for the petroleum industry. That impression is merely a matter of opinion.

The Planning and Co-ordination Committee here has been going ahead with its plans for the price hearings and will be ready to introduce a wealth of data and material when, as and if the hearings are held, supporting the proposal to have the Government establish these minimum prices. There has been no change in the committee's belief such minimum prices will eradicate price cutting and permit quick stabilization of the industry on a basis of reasonable living prices for all.

Labor Policy Board

Members of the Labor Policy Board for the oil industry, appointed by Administrator Ickes on November 24 to handle disputes relating to hours, wages and other labor questions arising in the oil business under administration of the code met in the office of Nathan R. Margold, solicitor of the Interior Department and chairman of the board, today to organize and discuss its operating policies. This board is regarded as an important factor in any labor questions which may arise and, it is understood, was appointed upon suggestion of the Planning and Co-ordination Committee. In addition to Mr. Margold the board consists of Seth W. Candee, Tide Water Oil Company; R. H. Ivory, Standard of California; and R. R. Zimmerman, Continental Oil Company, representing employers; and Dr. George W. Stocking, University of Texas; Harvey C. Fremming, International Association of Oil Field, Gas Well and Refinery Workers of America; and Charles C. Jones, an employes' representative of the refinery workers of Bayonne, N. J., representing employes.

Tax Evasion and Substitution Prove Obstacles to Marketing Program Under the Oil Code

By C O. WILLSON

NEW YORK, Dec. 2.—In connection with the final efforts now being made to stabilize the oil industry's operations on a profitable basis without price control by the Government, discussions which have taken place in this section of the country over the past two weeks reveal the fact that the evasion of state and Federal gasoline taxes and the substitution of unbranded motor fuels for branded products has become a serious problem. The evasion or substitution evils are, of course, not new nor are they peculiar to operations in this area. They have, however, come to the front in recent weeks due to their direct connection with the plans being completed to end the overproduction of crude oil and refinery products and thus establish a basis on which a satisfactory consumer price structure for the finished products can be established.

It is pointed out in discussions here that the program to curtail refinery operations under a plan which probably will be made known to the industry within a few days emphasizes the necessity of securing profitable prices from consumers for gasoline. Many refinery operators have materially curtailed their plant operations over the past several months and presumably it will be necessary to make additional reductions during the winter months to carry out the program of preventing surplus accumulations of gasoline during the winter months. This curtailment, of necessity, will have to be passed on to the marketing divisions which will mean a reduction in sales per unit of distribution. In brief, the curtailments by individual companies, whether in the producing, refining or marketing divisions, or all branches, emphasize the necessity of securing an adequate return for the reduced volume of business.

It is believed that a curtailment program generally supported will bring about the desired healthy market situation so far as the crude oil at the wells and refinery prices are concerned. At least the plan now being worked out assumes that satisfactory prices will be obtained for the raw material and finished products at the plants, provided operations are controlled to the point where no distress material is permitted to accumulate to be sold later at distress prices, a practice which in the past has tended to weaken all markets.

In the marketing end, the carrying out of the plan is not so simple due in a large measure, it is believed, to the evasion of gasoline taxes and substitution of products in wholesale and retail distribution. The fact that gasoline output at refineries is curtailed in line with the current demand does not mean that prices can be established and maintained which will assure a profit to a majority of the industry in tank wagon and service station distribution. Obviously this situation, if not remedied, not only will nullify any plan which aims to correct marketing evils but in the end will jeopardize the success of the program of the entire industry. This situation was summed up by one company executive who observed "that no industry can stabilize itself even with government aid if the bootlegger has an important place in some phase of its operations."

Extent of Evasion

Just how widespread the evasion of gasoline taxes is no one can state accurately. As in the case of liquor bootlegging practically any statement can be made as to the volume of illicit business being conducted in the sale of gasoline and no one can prove that it is incorrect. If, as one state enforcement agent explained, the exact gasoline gallonage being evaded was known, "we would also know the source and could stop it."

The writer has heard estimates in this section as high as 20 per cent with even greater percentages for small areas where the bootleggers are said to be exceptionally well entrenched. In this connection representatives of gasoline tax collection departments in 11 northeastern states meeting here this week to work out plans to check the interstate movement of gasoline, estimated that the amount of gasoline evasion did not exceed 5 per cent.

Although these officials are planning to reduce this evasion through plans explained later in this article, they apparently feel on the whole that they are doing an excellent job in regard to gasoline tax collection. This attitude is general among Federal and state collection officials, who explain that a 95 per cent collection of any tax levied by the states or Federal Government deserves credit rather than condemnation. The 95 per cent figure, it is pointed out, is far better than the records in income tax and ad valorem tax collections. The ease with which the gasoline tax is collected and the fact that the great bulk of the industry does not attempt any evasion explains the popularity of the tax with the states and the Federal Government and accounts for strong objections made to any suggestions that the tax be dropped or reduced.

Small Evasion Serious

While a 95 per cent collection may appear highly satisfactory to those collecting the gasoline tax, it is apparent that the 5 per cent evasion presents a serious problem to the oil industry. The 11 states participating in the conference here this week reported collection in September on 440,000,000 gallons of gasoline. If the 5 per cent figure is correct there was an additional 22,000,000 gallons which were sold to the consumer and no tax collected. The sellers of this gasoline evaded state taxes of from 2 to 5 cents per gallon and in some cases at least the 1½-cent Federal tax. Where the total tax was around 6 cents per gallon, the amount evaded was approximately equal to the price received by the refiner at his plant for the gasoline. Thus the bootleggers' profits were equal to the total return of the oil industry covering the production of the crude oil and the transportation and manufacturing expenses on its principal product.

No detailed explanation is needed in the oil business as to what this evasion means in tank wagon and retail marketing. With a 2 to 7-cent per gallon advantage over his competitors who pay all the taxes the bootlegger operator has a secure position as regards prices.

Due to the illicit character of his operations the bootlegger ordinarily does not carry on his tank wagon and service station operations in the same manner that the legitimate operator does. Usually he makes no effort to establish branded names for his products through advertising and sales effort. For that reason his usual practice is to attract business in tank wagon deliveries and sales to consumers by cutting prices. If a 1-cent concession will not get the business he is in a position to offer 2, 3 and even 4 and 5 cents per gallon in order to get his operation started in a certain territory. There are always dealers who can be persuaded to take over this class of business although they are aware that it is made possible through the evasion of taxes on the part of the company or individual supplying them the gasoline. They in turn, in order to attract consumers, pass on all or part of the price concessions they obtained from the tank wagon operator.

The results of these operations are well known to those engaged in the distribution of gasoline. The price cutter gets the business and the legitimate operator to protect his own customers has to meet the prices based entirely on the evasion of the taxes. It is pointed out in this connection that the bootlegger operations usually are centered in a small area where consumption is large. Due to the small amount of business obtainable and the greater hazards in regard to detection, the tax evader ordinarily does not attempt to operate in the small inland towns and cities and rural sections. Due to that fact even if the evasion for an entire state does not exceed 5 per cent, the amount of business done by bootleggers in some sections of that state may run as high as 25 per cent of the total gasoline gallonage.

The recent trouble in Camden, N. J., is said to have started by bootleg operators. To meet this situation all distributors were forced to reduce their prices from 3 to 5 cents per gallon below normal. The low prices there brought complaints from consumers and dealers in adjoining cities and towns including Philadelphia and it appeared for a time that prices would have to be reduced over a larger area resulting in substantial losses to every legitimate operator. Records of local distributors contain hundreds of similar cases which have developed over the past three years.

Substitution Evil

The substitution evil which some major distributors state is more important to them than direct evasion of taxes, is often tied with the latter practice. The bootlegger in these cases makes an arrangement with those in charge of station operations and substitutes his products for those of distributors selling branded goods. The dealer benefits by securing a wider margin of profit and the bootlegger has an outlet. However, in probably a majority of cases the full state and Federal taxes are paid on the gasoline substituted. In these cases the dealer or service station manager is responsible for the illicit operation.

It is said that this practice has spread in recent months due in part to the fact that major companies have found it necessary to reduce the differentials allowed dealers and their own company-owned stations. These major distributors have established their products with consumers by improving the quality of their gasolines supplemented with well directed advertising and sales campaigns. A large

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Marketers Warned That Code Violators Are to Be Prosecuted Vigorously

HOUSTON, Tex., Dec. 2.—Houston marketers to the number of 1,000, heard Fred M. Legge, Jr., of Dallas, chairman for Texas of the Region No. 4 marketing committee, explain the provisions of the oil code and warn them that violations would be prosecuted vigorously.

O. H. Carlisle, of the Gulf Refining Co., Houston, and vice chairman of the regional committee in charge of the petroleum code, presided at the meeting.

"The petroleum code," he said, "was adopted August 19 and made effective September 2. Many marketers have chafed at what they think is the delay in starting to enforce the code. The President has been lenient, giving the marketers a little over two months in which to familiarize themselves with the provisions of the code and to adjust their business. Too, the work of organization to administer the code required much time. I know from my own experience that the men assigned to this task have been working 18 hours a day to get the machinery in operation to effectively administer the code practices."

Mr. Legge said:

"Many people do not realize that the petroleum code is a Federal law, as much a Federal law as any other law on the statute books, and violation of that new law is just as much a Federal offense and punishable in the United States court the same as any other law.

"Now that the petroleum code is the law of the land, every marketer should study to understand its provisions and to avoid running counter to the courts.

"During the past five years the petroleum marketers have done unintentionally everything possible to destroy the oil industry. This includes the majors as well as the independents.

"The President, realizing this condition, decided that the industry must be conducted in a business-like manner, and it was decided that the code be enforced as an honest, fair and economical means of distributing petroleum products.

"I attended the code meetings in Washington. It was my observation that the independents in the oil industry had the major part in fashioning that code. My own company, the Socony-Vacuum, had but one representative. The same is true of the other major companies represented at the Washington code meetings. Therefore, the code is the work of the independents largely, of your own hands, and it is to your interest to abide by that code.

"There are in Houston and environs 750 filling stations selling gasoline at 16½ cents a gallon; 28 stations selling the same grade at 14 cents, and more than 100 at less. I refer to what is known as No. 3 grade.

"It must be patent to you that the President will not permit the law of the land to be flouted and his recovery plans checkmated by only 10 per cent of the marketers, especially when 90 per cent are adhering to the code. Your own intelligence should tell you that.

"The facts are that you have a most serious condition in Houston. This condition will not be tolerated.

"The code has put many thousands of men to work in the oil industry. This recovery can not be halted by chiselers.

"The labor provision of the marketing code alone costs service stations an extra 40 per cent. The refineries are in the same class. As to the producing end I scarcely think that you will believe that the added labor cost is much great-

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Clear-Cut Legal Precedent Welcomed by Ickes as An Aid in the Enforcement of Oil Code

WASHINGTON, D. C., Dec. 4.—A clear-cut legal precedent, upholding the constitutionality of the authority given in the NRA oil code to correct or prevent methods of competition destructive to the petroleum industry was seen by Secretary of the Interior Harold L. Ickes, the oil administrator, in an opinion by Justice Jesse C. Adkins of the District of Columbia Supreme Court.

As a result of Judge Adkins' decision, the oil administrator is now free to turn over to the Attorney General a mass of evidence collected by the Division of Investigations of the Interior Department, on which criminal prosecution will be based. All complaints of violations of the oil code should be sent to the Division of Investigations.

Secretary Ickes commented on the decision by Justice Adkins denying a plea by Harry Victor and others, of Detroit, for an injunction against him as oil administrator, to prevent application of provisions in the code prohibiting the giving of premiums or other free goods to encourage purchases of petroleum and its products.

The case resulted in the first court decision directly sustaining the constitutionality of the oil code and, indirectly, other codes under the National Recovery Act. Previous cases against the oil administrator have been based upon other sections of the act and not the oil code.

Charles Fahy, first assistant solicitor of the Interior Department and vice chairman of the Petroleum Administrative Board set up by Secretary Ickes to advise and assist him in enforcing the oil code, argued the case in the court. Mr. Fahy was aided by F. L. Kirgis and J. K. Cheadleo.

Bulwark on Enforcement

"The granting of premiums has been used indirectly as a vehicle to affect seriously and adversely for several years the whole marketing system of the petroleum industry in the United States," Administrator Ickes said, "and the denial by Justice Adkins of a plea for an injunction sustains the opinion written into the code by the industry that this practice should be regulated.

"The carefully considered and able opinion of Justice Adkins supports my contention that the petroleum code has the effect of statute. It is an added bulwark to our efforts to enforce the petroleum code.

"The system of giving premiums has, in effect, led to drastic price wars and has resulted in a reduction of wages, the growth of unemployment and indirectly encouraged the waste of an exhaustible and irreplaceable natural resource by demoralizing the market structure, all of which affected the broad question of the national welfare.

"Although the specific suit brought by Mr. Victor and his associates was considered by them applicable only to Detroit, it is a recognized fact that the practice of giving premiums or other inducements leading to the creation of an artificial and uneconomic distributing system has encouraged some refiners to use inexpensive methods of treating crude oil, thereby wasting this valuable resource in producing areas in other states.

"Further, the price cutting exemplified by premiums brings on direct price cutting by competitors and a consequent slashing of prices by other dealers spreading over wide circles and across state lines, dislocating normal markets and preventing the normal flow of gasoline and other petroleum products in interstate commerce.

"The petroleum industry, in addition to being one of the largest in the Nation and employing directly hundreds of thousands of wage earners, indirectly contributes to the employment of many other persons in related industries.

"The decision of Justice Adkins holds that the premium practice prohibited under the code imposes a direct burden upon interstate commerce on petroleum and its products and shows that the oil code, as formulated under the National Industrial Recovery Act, is constitutional.

"In passing the Recovery Act, Congress set forth a policy of removing obstructions to the free flow of interstate and foreign commerce which are detrimental to the general welfare. The giving of premiums interferes with the free flow of gasoline and oils in interstate commerce and creates an unfair method of competition tending to break down the program for stability.

"Justice Adkins' decision presents a clear precedent recognizing that sales practices relating to oil and its products affect interstate commerce.

"The marketing sections of the code were devised by representatives of the oil industry, and the Department of the Interior and its various agencies intend to continue efforts to assure the carrying out of these provisions."

Secretary Ickes also issued a statement regarding the pleas of guilty entered in the Hercules Gas Stations, Inc., case at Brooklyn, N. Y., where Federal Judge Clarence G. Gaiston passed sentence. Mr. Ickes said:

Brooklyn Case Signal Victory

"Three Brooklyn residents accused of violating labor provisions of the code pleaded guilty today in the United States Court for the Eastern District of New York.

"Action was brought against them after Sigmund Thomas, an employe, complained that he was forced to work 66 hours a week instead of the 48-hour maximum provided in the oil code.

"The defendants, the Hercules Gasoline Stations, Inc., David Lind and Moe Levine, officials, were fined respectively $200, $100 and $100 by U. S. Judge Galston.

"The case was the first criminal prosecution under the oil code to reach a final conclusion and represents a signal victory. The outcome of the case is most gratifying. It should serve as a warning to other violators of any provision of the code.

"As oil administrator, I have taken the position that all violations should be promptly prosecuted. To this end, I recently established an enforcement division in the Petroleum Administrative Board to carry out a vigorous enforcement program.

"This work is being carried on cooperatively by the Division of Investigations of the Department of the Interior, the Department of Justice and the Petroleum Administrative Board, all of whom collaborated in preparing and prosecuting the Brooklyn case.

"The many in the industry who are honestly attempting to abide by the code may be assured that the few who attempt to operate contrary to its provisions will be brought swiftly to justice."

Text of Decision Upholding Constitutionality of Authority Used Under Petroleum Code

WASHINGTON, D. C., Dec. 4.—Justice Jesse C. Adkins' opinion in the Supreme Court of the District of Columbia in the equity case of Harry Victor and others vs. Harold L. Ickes, Secretary of the Interior, follows:

This suit is filed by four retail distributors of gasoline at Detroit, Mich., against Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry.

The amended bill alleges that each of the plaintiffs is engaged in the distribution of oil and petroleum; that they do a purely local intrastate business of selling their products at their service stations and otherwise; that they established a business which is lawful under the laws of Michigan of giving coupons to customers redeemable in merchandise, usually glassware and earthenware.

They allege that on August 19, 1933, the President approved the code of fair competition for the petroleum industry, and on September 13, 1933, approved certain modifications thereof. Rule 17 of Article 5 provides:

"Except by permission of the Planning and Co-ordination Committee, refiners, distributors, jobbers, wholesalers, retailers, and others engaged in the sale of petroleum products shall not give away oil, premiums, trading stamps, free goods, or other things of value, or grant any special inducement in connection with the sale of petroleum products."

Plaintiffs allege that the defendant interprets this rule as applicable to their business, and that under such interpretation the rule and the National Recovery Act are unconstitutional because they interfere with the intrastate business of the plaintiffs.

Section 3(f) of the National Recovery Act authorizes the imposition of a fine of not more than $500 for any violation of a code of fair competition "in any transaction in or affecting interstate or foreign commerce."

Plaintiffs allege that defendant as administrator of the code of fair competition for the petroleum industry has informed plaintiffs that unless they desist from issuing and redeeming coupons he will have them prosecuted for violating the National Recovery Act.

Plaintiffs also allege that their competitors give free parking space with the sale of gasoline, and give maps and spend large sums in advertising; that plaintiffs' system of giving premiums is a method of advertising; that the defendant's conduct is arbitrary and capricious, and does not constitute due process of law because he does not intend to prosecute their competitors for the things above mentioned, and thereby discriminates against plaintiffs.

Plaintiffs pray that defendant may be enjoined from interfering with their business and from attemption to have them prosecuted under the act or under the code.

A rule was issued requiring defendant to show cause why he should not be enjoined as prayed. Defendant filed an answer to the rule, and a motion to dismiss the bill of complaint.

Defendant's Answer

In his answer to the rule defendant says that the practice of giving premiums has been indulged in by certain gas filling stations in Michigan in the past and has resulted immediately in direct price cutting by competing dealers; that this resulting price cutting war has spread in widening circles and frequently across state lines; that there has resulted diminution and dislocation of interstate commerce; that some retailers diverted their purchase of petroleum products to cheap foreign markets in order to buy gasoline at prices sufficiently low to enable them to continue price cutting and stay in business; that the price cutting was extended back to refiners and producers and brought about a serious and widespread dislocation of business among refiners and a serious impairment and obstruction to the normal flow of gasoline in interstate commerce.

That the practice has in many instances compelled retail dealers to go out of business.

That the practice has resulted in encouraging certain refiners to use inexpensive and insufficient methods of treating crude oil, thereby causing a waste of an important and exhaustible natural resource of the nation.

That the conduct of the petroleum business by the use of such methods seriously and adversely affected for several years past the whole of the petroleum industry in the United States resulting not only in drastic price wars but in reduction of wages, growth of unemployment, and waste of an exhaustible natural resource, all of which affected interstate commerce not only in petroleum and its products but in general.

That the petroleum industry is one of the largest in the United States furnishing employment to hundreds of thousands of persons; that a substantial portion of the people of the nation are directly interested financially in said industry, including production, refining, distributing and marketing of petroleum and its products; said industry is the third largest in the nation; it employs directly hundreds of thousands of wage earners and indirectly contributes to the employment of many other persons; it is a large user of the interstate transportation facilities of the nation; that its products in crude and refined form are transported to practically every town in the United States.

The answer is accompanied by numerous affidavits signed by hundreds of men engaged in some branch of the petroleum industry and in some form of interstate commerce in petroleum products between Michigan and other states, and also in the retail distribution of such products in Michigan.

Some of the affiants are officers of oil companies engaged in business throughout a substantial portion or all of the nation. Hundreds of affiants are distributors in Detroit or other Michigan cities.

These affidavits overwhelmingly support the answer above summarized.

From the affidavits it appears that the great bulk of gasoline used in Michi-

gan comes from other states of the Union.

In 1931, 1932 and the early part of 1933 there were severe and drastic price wars in Detroit and other Michigan cities. The affidavits give a vivid picture of the origin, duration and effect of some of these wars.

One war was brought about by the fact that a competitor of the Sunny Service Oil Co. inaugurated a system of giving premiums with gasoline. This form of price cutting is difficult to meet because no one else knows the cost of the premium the dealer is giving. The Sunny Service Oil Co. met this competition by reducing prices, and other competitors were compelled to do likewise. This war was so severe that 16 distributors in Detroit were driven into bankruptcy.

The Sunny Service Oil Co. distributes more gasoline to the public than any other single retail marketer in Detroit. In order to continue price cutting and stay in business it was compelled to purchase low-priced gasoline from abroad and import the same into this country. An effect of this war was to substantially restrain the flow of gasoline from other states of the Union into Michigan and to substitute for many millions of gallons of such gasoline the cheap gasoline imported from abroad.

One of the companies forced out of business, the Middleton Oil Co., had distributed in Michigan approximately 2,500,000 gallons of gasoline per year purchased from refiners in Indiana.

During this war the business of the White Star Refining Co. which operated two refineries in Michigan was so adversely affected that it sold one of its refineries, and the purchaser later was compelled to shut down the refinery. This refinery in three months of 1931 ran 520,000 bbls. of oil, all of which moved in interstate commerce.

Other Michigan cities suffered in the same way as Detroit, with the corresponding effect upon interstate commerce.

One affiant thus graphically describes the effect of the giving of premiums in Ann Arbor. On March 2, 1933, affiant's company announced in the press that it would give free a jig-saw puzzle with each 5 gallons of gasoline purchased at its stations on March 4 and 5. The next day two competitors announced a cut of 2 cents a gallon, and on the following day two national distributors announced the same reduction. Thereupon affiant announced a discount of 2 cents a gallon plus a jig-saw puzzle. Before that day was over practically all distributors, one after another, increased the discount to 4 cents a gallon. Fortunately the originator had promised his premium for only two days and on March 6 all distributors restored their original prices without discount or gifts of any kind.

From the evidence I find as a fact that the practice of giving premiums with the sale of gasoline in intrastate commerce in Detroit has imposed a direct burden upon interstate commerce and the necessary effect of such a practice is to substantially and unduly obstruct the interstate commerce between Michigan and other states in gasoline and substantially to reduce the amount of such interstate commerce.

The Statute Examined

The question in this case is whether the giving of premiums by plaintiffs with their sales of gasoline in intrastate commerce may be regulated or prohibited by Congress because of its effect upon interstate commerce in gasoline.

In my opinion the answer depends upon the commerce clause of the Constitution. It is sufficient to state that part of the National Recovery Act which purports to be based on this clause.

The National Industrial Recovery Act of June 16, 1933, is divided into three titles. The first, Industrial Recovery, has 10 sections. We are concerned with Sections 1 to 7.

Section 1 is a declaration of policy.

It declares the existence of a national emergency productive of widespread unemployment and disorganization of industry, which burdens interstate and foreign commerce. It is hereby declared to be the policy of Congress to remove obstructions to the free flow of interstate and foreign commerce which tend to diminish the amount thereof and to provide for the general welfare, (and there follows the statement of many things to be accomplished, including the elimination of unfair competitive practices).

Section 2 provides for the administrative agencies for the enforcement of the law, and limits the existence of the title to two years, unless the President or Congress shall sooner declare that the emergency recognized by Section 1 has ended.

Section 3 provides for the approval by the President of a code of fair competition for a trade or industry or subdivision thereof.

Under 3(a) the President's approval may be given upon the voluntary application of a trade or industrial association or group.

After the President shall have approved any such code its provisions shall be the standards of fair competition for such trade or industry 3(b).

Any violation of such standards in any transaction in or affecting interstate or foreign commerce shall be deemed an unfair method of competition within the meaning of the Federal Trade Commission Act.

3(c) gives jurisdiction to the district courts of the United States to restrain violations of any code of fair competition.

Paragraph (d) authorizes the President, upon certain complaint made to him, and if there has been no voluntary application, to prescribe and approve a code of fair competition for a trade or industry, and it shall have the same effect as a code approved on the application of the trade or industry.

Section 7 prescribed certain things which must be included in every code of fair competition; they deal principally with labor.

Provisions of Code

Section 5(f) provides that when a code of fair competition has been approved (under Paragraph a) or prescribed (under Paragraph d), any violation of any provision thereof in any transaction in or affecting interstate commerce shall be a misdemeanor, subject to a fine of not more than $500, and that each day such violation continues shall be a separate offense.

The act undertakes to confer several advantages upon those who comply with its provisions, in addition to those advantages flowing from the codes of fair competition themselves.

Under Section 3(e), upon complaint from persons who have complied with the provisions of this title, the President may limit the importation of articles or prescribe the terms of importation of articles, the importation of which may tend to render ineffective any code or agreement made under this title.

Under Section 5 the codes shall be exempt from the provisions of the anti-trust laws of the United States.

Section 303 provides: "If any provision of this act, or the application thereof to any person or circumstances, is held invalid, the remainder of the act, and the application of such provisions to other persons or circumstances, shall not be affected thereby."

The code of fair competition in the petroleum industry was approved by the President August 19, 1933, upon the application of a number of groups in the industry. It was modified September 13, 1933.

The code is divided into seven articles. Article 5, dealing with marketing, contains 31 rules. Rule 17, which forbids the giving of premiums with the sale of gasoline, has already been set forth.

Opinion of Court

1. The National Industrial Recovery Act does not delegate legislative power to the President.

Plaintiffs' attorney does not contend to the contrary; therefore the discussion of this point may be brief.

Section 3 of the act authorizes the President to approve codes of fair competition for a particular trade or industry or subdivision thereof; after such code is approved the provisions thereof shall be standards of fair competition for that trade; any violation of such standards in any transaction in or affecting interstate or foreign commerce shall be deemed an unfair method of competition in commerce within the meaning of the Federal Trade Commission Act.

The language used in Section 5 of that act is "unfair methods of competition."

An attack was made on that statute as being too indefinite and as constituting an unconstitutional delegation of power to the commission. In Sears Roebuck & Co. v. Federal Trade Commission 258 Fed. 307, the Court of Appeals for the Seventh Circuit, after holding the language "unfair methods of competition" to be sufficiently definite, said:

"Grants of similar authority to administrative officers and bodies, have not been found repugnant to the Constitution. Buttfield v. Stranahan, 192 U. S. 470, 24 Sup. Ct. 349, 48 L. Ed. 525; Union Bridge Co. v. United States, 204 U. S. 365, 27 Sup. Ct. 367, 51 L. Ed. 523; Penn. Rld. Co. v. International Coal Co. 230 U. S. 184, 33 Sup. Ct. 893, 57 L. Ed. 1,446, Ann. Cas. 19,150, 315; National Pole Co. v. Chicago & N. W. Ry. Co. 311 Fed. 65, 127, C. C. A. 581.

Governmental Control

"With the increasing complexity of human activities many situations arise where governmental control can be secured only by the 'board' or 'commission' form of legislation. In such instances Congress declares the public policy fixes the general principles that are to control, and charges an administrative body with the duty of ascertaining within particular fields from time to time the facts which bring into play the principles established by Congress. Though the action of the commission in finding the facts and declaring them to be specific offenses of the character embraced within the general definition by Congress may be deemed to be quasi legislative, it is so only in the sense that it converts the actual legislation from a static into a dynamic condition. But the converter is not the electricity. And though the action of the commission in ordering desistance may be counted quasi judicial on account of its form, with respect to power it is not judicial, because a judicial determination is only that which is embodied in a judgment or decree of a court and enforceable by execution or other writ of the court." (311, 313.)

In Frischer v. Elting, 80 F(2d) 711, certiorari denied 287 U. S. 649, the Court of Appeals for the Second Circuit upheld the constitutionality of Section 316 of the Tariff Act of 1922, which authorized the President to increase duties or impose an embargo upon imports which he considered were in unfair competition with domestic products.

In Hampton Co. v. U. S. 276 U. S. 394 the Supreme Court sustained the validity of Section 315 of the same Tariff Act which directs the President to increase or decrease duties so as to equalize the difference which upon investigation he finds between the costs of producing at home and in competing foreign countries the kinds of articles to which the duties apply. Mr. Chief Justice Taft in his opinion discusses the subject at length.

In his opinion in the cases of United States v. Campbell, Campbell v. Medalie, and Campbell v. Chase National Bank District Judge Woolsey sustained the power of the President to make regulations under Sections 2 and 3 of Title 1 of the Act of March 9, 1933 (New York Journal, November 17, 1933, p. 1814). His opinion contains an excellent discussion of the authorities.

A similar provision in the Agricultural Adjustment Act was sustained by St. Sure, District Judge, on October 2, 1933, in United States and Henry A. Wallace, Secretary of Agriculture v. Calistan Packers, Inc., in the U. S. District Court for the Northern District of California.

2. Upon the record it must be held that plaintiffs' method of doing business constitutes a method of unfair competition forbidden by Rule 17 of the code, and

Brooklyn Defendants Plead Guilty and Are Sentenced in the Federal Court

By C. O. WILLSON

NEW YORK, Dec. 4.—Reversing their previously announced decision to carry the case to the Supreme Court of the United States if necessary, David Lind, president, and Mose Levine, vice president of the Hercules Gas Stations, Inc., today entered pleas of guilty to nine counts of an indictment returned November 16 charging them with violation of the NRA code in the operation of their bulk and filling stations in Brooklyn.

Federal Judge Clarence G. Gaiston, to whom the pleas were made when the case was called for trial, fined Lind and Levine $100 each and the corporation $200 on one count of the indictment and suspended sentences on the remaining counts. Judge Gaiston in determining the sentence explained that he had taken into consideration the fact that the defendants in pleading guilty had saved the Government considerable expense. He also obtained a promise from the defendants that they would comply with the NRA code for the oil industry in all their future operations.

The defendants in the indictment, which was first to be returned anywhere in the United States under the NRA code, were charged with working their employes 11 hours a day, six days a week, or a total of 66 hours, in violation of the NRA code for the oil industry which provides for a maximum of 48 hours in service station operation. Six of the counts related to this violation and the remaining three of the failure to post the price of gasoline is the manner prescribed by the code. At the time the indictments were returned the defendants indicated their intention to fight the case and on November 24 entered pleas of not guilty. Their attorneys at that time in entering a demurrer to the indictment argued that the NRA is unconstitutional in that Congress has no power to give the President authority to make codes for industry. They further argued that the defendants did not sign the code and did not display the Blue Eagle. Another contention was that the defendants do business only in New York state and that since interstate commerce is not involved, the Government lacked jurisdiction. The defendants gave no explanation of their decision to enter pleas of guilty.

"This conviction proves that the National Recovery Act is not based on the consent of the individual to a code," Assistant U. S. Attorney Manuel Bublick, who prosecuted the case, said today, "but is a law of the land which can be punishable as a crime." He pointed out that under the law the court could have fined the defendants a maximum of $4,500 each.

It is believed that the convictions will aid materially in the enforcement of the oil industry's code in this territory. Among independent dealers and jobbers complaints have been general that many were not carrying out the code's provisions as to wages and hours of employment and also are not posting prices.

You don't have to be a Dubbs licensee to get the benefit of the Universal Liquid Inhibitor—though it's wise and profitable to be one

Dubbs licensees can buy Universal Liquid Inhibitor at a special low price—that's one of the advantages of being a Dubbs licensee

Other refiners pay more, but even so it costs less than other treating methods and does a better job

Dubbs cracking makes the highest yield of the best gasoline—anti-knock gasoline—from any charging stock at lowest cost—royalty and all

Universal Liquid Inhibitor keeps the anti-knock value all in and the gum all out

Universal Liquid Inhibitor is covered by Patents No. 1,889,835 and No. 1,889,836 which are owned by Universal Oil Products Company

Universal Oil Products Co
Chicago, Illinois

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that said rule is not a violation of the due process clause.

Counsel for plaintiffs contends that the giving of premiums is simply a form of advertising and cannot be held to constitute unfair competition.

As far back as February 17, 1873, Congress by "An Act prohibiting gift enterprises in the District of Columbia" (17 Stat. 464) made unlawful in the District of Columbia a business similar to that carried on by plaintiffs. The Court of Appeals held that statute valid in Lansburgh v. D. C., 11 App. D. C. 512.

In Rast v. Van Deman, 240 U. S. 342, the Supreme Court held that a Florida statute imposing prohibitory license taxes upon merchants selling goods in conjunction with trading stamps or premium coupons was valid and not an infringement of the due process clause. The Court overruled contentions similar to those made by plaintiffs here. The Court said:

"But no refinement of reason is necessary to demonstrate the broad power of the legislature over the transactions of men. There are many lawful restrictions upon liberty of contract and business. It would be an endless task to cite cases in demonstration, and that the supplementing of the sale of one article by a token given and to be redeemed in some other article has accompaniments and effects beyond mere advertising the allegations of the bill and the argument of counsel establish. Advertising is merely identification and description, apprising of quality and place. It has no other object than to draw attention to the article to be sold, and the acquisition of the article to be sold constitutes the only inducement to its purchase. The matter is simple, single in purpose and motive; its consequences are well defined, there being nothing ulterior; it is the practice of old and familiar transactions and has sufficed for their success.

Promise Greater Value

"The schemes of complainants have no such directness and effect. They rely upon something else than the article sold. They tempt by a promise of a value greater than that article and apparently not represented in its price, and it hence may be thought that thus by an appeal to cupidity lure to improvidence. This may not be called in an exact sense a 'lottery,' may not be called 'gaming'; it may, however, be considered as having the seduction and evil of such, and whether it has may be a matter of inquiry, a matter of inquiry and of judgment that it is finally within the power of the legislature to make. Certainly in the first instance, and, as we have seen, its judgment is not impeached by urging against it a difference of opinion. Chic. Burl. & Quincy R.R. v. McGuire and German Alliance Ins. Co. v. Kansas, supra. And it is not required that we should be sure as to the precise reasons for such judgment or that we should certainly know them or be convinced of the wisdom of the legislation. Southwestern Oil Co. v. Texas, 217 U. S. 114, 126, 127. See also Munn v. Illinois, 94 U. S. 113, 132."

This disposes of the plaintiffs' contention that the enforcement of Rule 17 against them is arbitrary and capricious because their rivals are giving free parking space with the sale of gasoline, and are giving maps and advertising in newspapers.

At the argument counsel for the Planning and Co-ordination Committee created by the petroleum code stated that the giving of free parking space was a violation of the rule, and that steps would be taken to stop it by prosecution or otherwise.

The giving of maps is but one form of advertising. Maps and other road information are freely given by filling stations to any motorist whether he makes purchases or not. I think the practice is so widespread that I may take judicial notice of it.

In Rast v. Van Deman the Supreme Court also holds that the regulation and even prohibition of the business there involved was not in violation of the due process clause (p. 368).

In Highland v. Russell Car Co. 279 U. S. 233, the Supreme Court in speaking of the freedom of the people to make contracts in respect of their property and private affairs said:

"It is also well established by the decisions of this court that such liberty is not absolute or universal, and that Congress may regulate the making and performance of such contracts whenever reasonably necessary to effect any of the great purposes for which the national government was created."

May Prohibit Premiums

3. The giving of premiums by plaintiffs with their sales of gasoline in intrastate commerce may be prohibited by Congress because of its effect upon interstate commerce in petroleum products.

Upon the evidence I have found that the practice of plaintiffs imposes a direct burden upon interstate commerce in petroleum products and substantially and unduly obstructs the free flow of such commerce between Michigan and other states of the Union, and substantially and unduly diminishes the amount of such interstate commerce.

Clause 3, Section 8, Article 1 of the Constitution provides:

"The Congress shall have power . . . To regulate commerce with foreign nations and among the several states."

In Houston & Texas Ry. Co. v. U. S., 234 U. S. 342 (The Shreveport case), the complaint was that the railroads made rates out of Dallas and other Texas points into eastern Texas which were much lower than the rates which they extended into Texas from Shreveport.

In discussing the power of Congress under the interstate commerce clause the present Chief Justice said (p. 351):

"Congress is empowered to regulate—that is, to provide the law for the government of interstate commerce; to enact 'all appropriate legislation for its protection and advancement' (The Daniel Ball, 10 Wall. 557, 564); to adopt measures 'to promote its growth and insure its safety' (County of Mobile v. Kimball, 102 U. S. 691, 697); 'to foster, protect, control and restrain' (Second Employers' Liability Cases, 223 U. S. 1, 54)."

The court held that Congress has power to control the intrastate commerce carried by the railroads to the extent necessary to prevent injurious discrimination against interstate traffic. The court continued:

"The fact that carriers are instruments of intrastate commerce, as well as of interstate commerce, does not derogate from the complete and paramount authority of Congress over the latter or preclude the Federal power from being exerted to prevent the intrastate operations of such carriers from being made a means of injury to that which has been confided to Federal care. Wherever the interstate and intrastate transactions of carriers are so related that the government of the one involves the control of the other, it is Congress, and not the state, that is entitled to prescribe the final and dominant rule, for otherwise Congress would be denied the exercise of its constitutional authority and the state, and not the Nation, would be supreme within the national field. Baltimore & Ohio Railroad Co. v. Interstate Commerce Commission, 221 U. S. 612, 618; Southern Railway Co. v. U. S., 222 U. S. 20, 26, 27; Second Employers' Liability Cases, supra, pp. 48, 51; Interstate Commerce Commission v. Goodrich Transit Co., 224 U. S. 194, 205, 213; Minnesota Rate Cases, supra, p. 431; Illinois Central Railroad Co. v. Behrens, 233 U. S. 473" (pp. 351-2).

Cases Cited

The cases dealing with the control by Congress over the business of the railroads engaged in interstate commerce are innumerable. They uphold the right of Congress to regulate rates, equipment, methods of bookkeeping and other matters dealing both with intrastate as well as interstate commerce. Usually the intrastate business of the carriers is so mixed with their interstate business that it is not difficult to see the effect of the local business upon the interstate business.

In the Shreveport case it was held that Congress might authorize the fixing of rates in local commerce between Texas cities because the carriers' rates gave the Texas cities an advantage and preference over Shreveport in Louisiana. Clearly this was a regulation of intrastate commerce solely because it diminished the interstate commerce between Shreveport and Texas. Logically it is difficult to distinguish that case from the present one.

The cases of Swift & Co. v. U. S. 196 U. S. 375 and Stafford v. Wallace, 258 U. S. 495, are directly in point and sustain the validity of Rule 17.

Both cases deal with the meat-packing industry. The Swift case involved a bill in equity filed by the United States resulting in a decree enjoining the packers from violating the Sherman law in certain respects named.

In Stafford v. Wallace the constitutionality of the Packers and Stockyards Act of 1921 was involved.

In the Swift case the Supreme Court found that there is a steady flow of commerce from the western states to the east in cattle, the flow of commerce being interrupted at the stockyards for the purpose of finding purchasers for the cattle, some of the cattle being slaughtered at the stockyards and the bulk of the meat products therefrom continuing in interstate commerce to eastern states, while other cattle went back to the range for fattening. The Court held that the acts of commissionmen and dealers in purchasing these cattle when they stopped at the stockyards were incident to interstate commerce, and that the combination of the packers being illegal under the Sherman law, the fact that the acts of the commissionmen and dealers were local and intrastate would not prevent an injunction against the combination.

The Packers and Stockyards Act of 1921 provides for the supervision by Federal authority of the business of the packers and commissionmen and livestock dealers in the great stockyards of the country. It seeks to regulate the business of the packers and forbids their engaging in unfair or discriminatory and deceptive practices. The act also requires that all rates and charges for services and facilities in the stockyards and all practices in connection with the livestock passing through the yards shall be just, reasonable, nondiscriminatory and nondeceptive. The Secretary of Agriculture is given authority to determine the justice, reasonableness and nondiscriminatory or nondeceptive character of every charge and practice, and to fix rates.

The object of the act is the free and unburdened flow of livestock from the ranges and farms through the great stockyards, and thence in the form of meat products to the consuming cities of the country. Congress thought that the control was necessary in order to prevent a monopoly of the packers. Another evil which it sought to provide against was exorbitant charges, duplication of commissions, deceptive practices in respect of prices in the passage by the livestock through the stockyards.

Following its decision in the Swift case the Supreme Court in an opinion by Mr. Chief Justice Taft sustained the constitutionality of this statute. As to the commissionmen and dealers at the stockyards whose transactions were local and intrastate the court found that their functions did not interrupt the current of the commerce but were indispensable to its continuity. The court said:

"The only question here is whether the business done in the stockyards between the receipt of the livestock in the yards and the shipment of them therefrom is a part of interstate commerce or is so associated with it as to bring it within the power of national regulation" (517).

Great Central Fact

After quoting at length from the Swift case the court continued:

"The application of the commerce clause of the Constitution in the Swift case was the result of the natural development of interstate commerce under modern conditions. It was the inevitable recognition of the great central fact that such streams of commerce from one part of the country to another which are ever flowing are in their very essence the commerce among the states and with foreign nations which historically it was one of the chief purposes of the Constitution to bring under national protection and control. This court declined to defeat this purpose in respect of such a stream and take it out of complete national regulation by a nice and technical inquiry into the noninterstate character

(Continued on Page 24)

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude oil at the close of the week ended November 25 amounted to 341,763,000 bbls., a decrease of 984,000 bbls. from the total of 342,747,000 bbls. reported for the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This decrease represents a daily average of approximately 141,000 bbls., compared with a daily average withdrawal of 107,000 bbls. during the preceding week. Stocks of domestic crude totaled 339,163,000 bbls., a decrease of 784,000 bbls. from the total of 339,947,000 bbls. reported last week, while stocks of foreign crude held in the United States amounted to 2,600,000 bbls., a decrease of 200,000 bbls. from the total of 2,800,000 bbls. reported for the preceding week. Current import statistics recorded a decrease of 409,000 bbls. in receipts of foreign crude oil the past week, as compared with preceding week.

Current reports of the oil industry indicate that petroleum refineries during the week ended November 25 refined a daily average of 2,360,000 bbls., an increase of 15,000 bbls. over the daily average recorded for the preceding week. Stocks of motor fuel at petroleum refineries, bulk terminals, and natural gasoline plants declined 170,000 bbls. during the week.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

(Received and tabulated by the U. S. Bureau of Mines, Washington, D. C.)

Grade of crude oil—	Stocks held by reporting companies Nov. 18, 1933 (bbls.)	Stocks held by reporting companies Nov. 25, 1933 (bbls.)	Change from Nov. 18, 1933 (bbls.)
Pennsylvania Grade	5,383,000	5,393,000	+10,000
Other Appalachian, including Kentucky	1,115,000	1,117,000	+2,000
Lima-N.E. Indiana-Michigan	1,462,000	1,440,000	—22,000
Illinois-S.W. Indiana	11,067,000	11,124,000	+57,000
N. Louisiana and Arkansas	11,787,000	11,861,000	+74,000
West Texas and S.E. New Mexico	32,562,000	32,364,000	—198,000
East Texas	45,538,000	44,931,000	—607,000
Other Mid-Continent	*152,028,000	152,099,000	+71,000
Gulf Coast	16,183,000	16,289,000	+106,000
Rocky Mountain	27,121,000	27,096,000	—25,000
California	35,701,000	35,449,000	—252,000
Total domestic crude	339,947,000	339,163,000	—784,000
Foreign crude	2,800,000	2,600,000	—200,000
Total crude	342,747,000	341,763,000	—984,000

*Revised.

W. H. Daugherty and Son Refining Co. Places New Distillation Unit in Service at Petrolia

By R. C. CONINE

PETROLIA, Pa., Dec. 4.—Operating its recently completed 2,000-bbl. Arthur G. McKee distillation unit, W. H. Daugherty & Son Refining Co., one of the few Pennsylvania refiners producing lubricating oils by the long residuum method, is obtaining high yields of its most important product and is setting new high standards in the oils for which the district is famous. The finished residual product has the remarkably low Conradson carbon per cent of less than 1.25; the flashpoint and pourpoints reflect greatly improved refining methods, and the properties of the cuts taken from the fractionating tower are such as to lower considerably the cost of finishing.

Combating Corrosion

Two features which are of particular interest, especially when found in a refinery processing Pennsylvania Grade crude oil, are a gaseous ammonia installation to prevent corrosion at the top of the bubble tower and in the vapor heat exchanger, and the "salt drum," or specially designed crude oil settling tank which plays an important part in improving the quality of products and in lowering the cost of operation and maintenance. Nearly all of the important elements of the distillation unit present interesting advantages, and while the unusual flexibility of the installation has not been fully utilized, test runs have shown that a remarkable range of special products can be cut on comparatively short notice.

Numerous Tray Sections

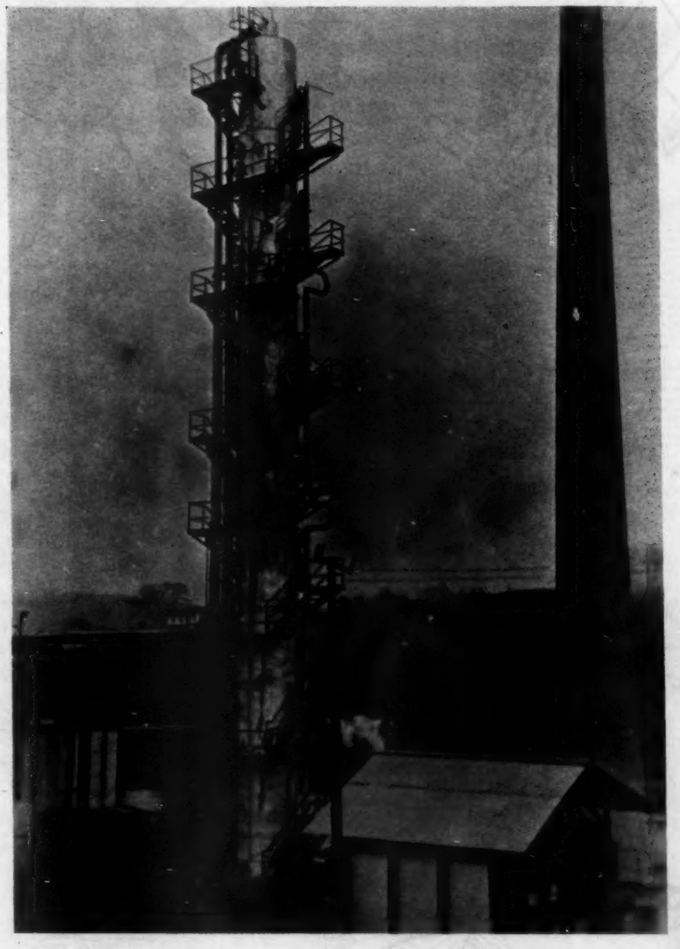
In accounting for the qualities of the products, ranging from the gasoline which is a finished material when it leaves the condenser, to the residuum which will be discussed more in detail later, the unusual number of bubble cap trays in the fractionating column are first noted. There are 43 of these sections. No side strippers are in evidence. The cap openings are of special design and contribute to the general plan of rapid throughput and fullest contact evident throughout the system.

There are 37 bubble cap trays in the fractionating section of the tower, and six trays in the base of the tower for stripping the residuum. The extensive use of superheated and live steam is also noted. A cross-fire of live steam, at 90 pounds, 300° F., is injected into the narrow tray sections in the base of the tower where the bottoms are continually stripped of lighter fractions. Superheated steam enters the tower at the naphtha, kerosene and furnace oil sections, and high pressure steam for blowing out is available at the crude oil charging line just after the pipe still. High pressure steam may also be injected for blowing out in the gas oil and slop wax sections. Steam is also available for the salt drum or settling tank, although the temperature of the crude oil is sufficiently high after the heat exchangers to facilitate settling out and stratification. Another point of interest is the trap arrangement and vacuum breaker on each of the liquid streams from the tower.

Small Diameter Tubes

The crude pipe still tubes are of 2-inch diameter size, computed from the velocity and heat energy to reduce the "stagnant" oil film to a minimum and effectually prevent decomposition of the crude oil charge to any practical degree. Whatever tendency the oil might have toward cracking is also materially reduced by removal of the salt water and silt in the settling drum. Steps in processing the crude oil and particular features of the unit may be traced as follows:

The crude oil, at a temperature of about 70° F. is charged through the vapor heat exchanger where its temperature is raised to 150° F. The crude then goes to the crude settle tank where a drawoff arrangement removes the water stratum containing the salt and sediment. At the wax distillate exchanger the temperature is raised to about 175° F., and after leaving the bottoms exchanger the temperature of the crude has reached 220° F., after which it is charged under comparatively high pressure through the pipe furnace and into the fractionating tower.



General view of new tower and still in Petrolia, Pennsylvania, plant of W. H. Daugherty and Son Refining Company

Entering the tower expansion chamber at 625° F., and about 1.25 pounds pressure, the crude vapors and injected steam rise rapidly through the bubble cap tray sections whipping the cooling liquid layers, while the heavy portion of the charge drops down into the residuum stripping section. The trays in this bottom section are narrow and retain the bottoms just long enough to effect the flashing off of the light ends by means of the live steam arrangement which has been described.

Product Yields

The gasoline vapors leave the top of the tower at 220° F. and pass successively through the vapor heat exchanger, condenser and cooler, into the water separator which also acts as the reflux tank, and then to storage as a finished product representing 26.4 per cent of the crude charge. The reflux drawn from the water separator carries ammonia into the top of the tower to eliminate corrosion. An ammonia cylinder is attached to the reflux line just after the pump, and the gas is injected at 30 pounds pressure. From 2 to 4 pounds of ammonia gas (NH_3) are used per day when running the unit at full capacity. Reflux enters the tower at 90° F. temperature.

The superheated steam entering the naphtha, kerosene and furnace oil sections is under 15 pounds pressure and has a temperature of 500° F. The naphtha cut is to meet paint thinner specifications and leaves the tower with an initial of 300° F. and an endpoint of 400° F. The flashpoint is 110° F. The yield is 6.4 per cent of the charge. The naphtha and kerosene cuts are agitated with 66° Be. sulphuric acid and given a neutralizing wash. Little acid is required. The kerosene distillate is finished into 47° A.P.I. gravity water white material. The kerosene yield is 15.4 per cent of the charge. The furnace oil cut, which represents 6.8 per cent of the crude, is a light straw color material of 41-43 gravity. The flashpoint is 160° F., the endpoint is 600° F., and it has a zero cold test.

The gas oil cut, representing 11.1 per cent of the charge, is a 36-40 gravity material of 225° F. flashpoint. The wax distillate cut is not finished, but is thrown into the gas oil. The wax distillate represents 6.2 per cent of the charge. The plant is not running to below 600 steam refined and there is no slop wax cut under present operating conditions.

Lub Cut

The long residuum fraction, representing 27.1 per cent of the crude oil charge, is pumped from the bottom of the tower with a viscosity of 90 seconds at 210° F. As pointed out above, the various features of the unit are such as to produce a minimum of decomposition products, not only in the lower boiling materials, such as the gas oil and furnace oil cuts (to avoid gumming and carbonizing of burner jets, etc.), but also in the bottoms. An indication of the success of the unit in accomplishing this objective is given in the simple processing required on the residuum as it is drawn from the bottom of the tower.

Handling Bottoms

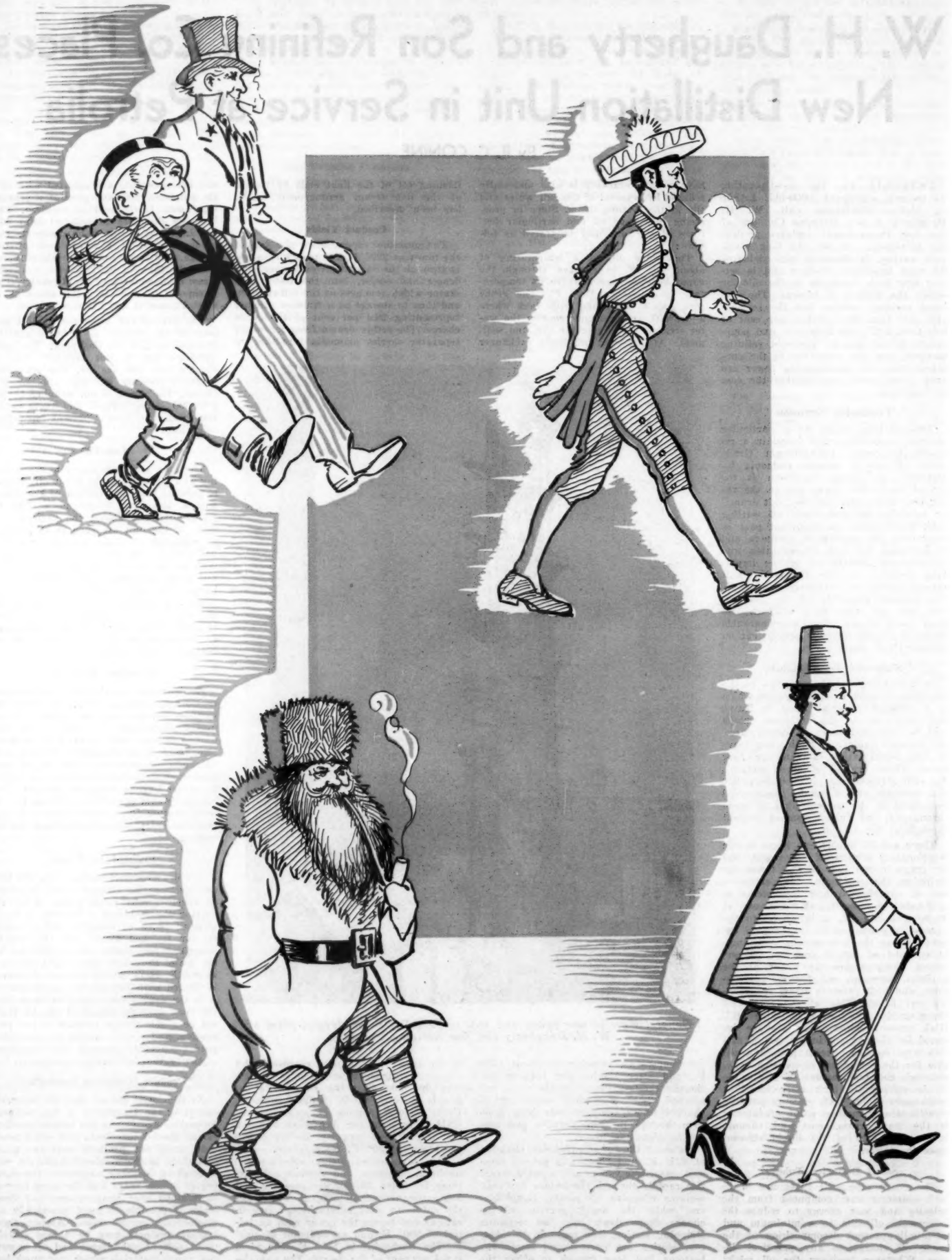
The bottoms from the tower are pumped to working storage. From the tanks the bottoms are run into the filters without use of any diluent. In spite of the lack of any diluent such as naphtha or gasoline, there is no channeling or loss such as might be expected. This is not surprising as steps have been taken all along to assure a good filterable product. The long residuum is chilled to minus 10° F. in a solution of gasoline before it is run into the Sharples supercentrifuges for dewaxing.

Reduced in Tower

The dewaxed bottoms are then run into the fractionating column where reduction to specifications takes place. After reduction the residuum is filtered to make finished stock of about 6 N.P.A. color. In the finished motor oils the desired pourpoint for winter use is obtained by the use of Paraflow. When light oils such as S.A.E. 10 or 20 are desired, the stock is diluted with 180 neutral oil. However, it is the contention at this refinery that the most suitable motor oil should, first, not be a side stream product in any proportion, and second, should be one which grades smoothly through the "weights" of the "actual lubricating components."

Produce Numerous Specialties

As it is well known that the interests operating the Daugherty & Son refining properties are among the largest marketers of special petroleum and other products, it is not unlikely that the great flexibility of the McKee installation will be utilized on many occasions. The number of bubble trays and the close control maintained over temperatures and flow, make it possible to meet practically all commercial specifications. Among these special products may be named certain paint solvent substitutes and other narrow range materials which cost much less



OIL MEN throughout the world will be "brought together" by the Round-the-World Number of *The Oil and Gas Journal* that comes off the press December 28th. Here, for the first time in all *The Journal's* 30 years of helpfulness, you will find a special catalog section that will be printed in four languages —English, Spanish, French and Russian. Manufacturers will be able to describe their equipment, for the first time, in the native languages of the major oil producers and refiners throughout the world.

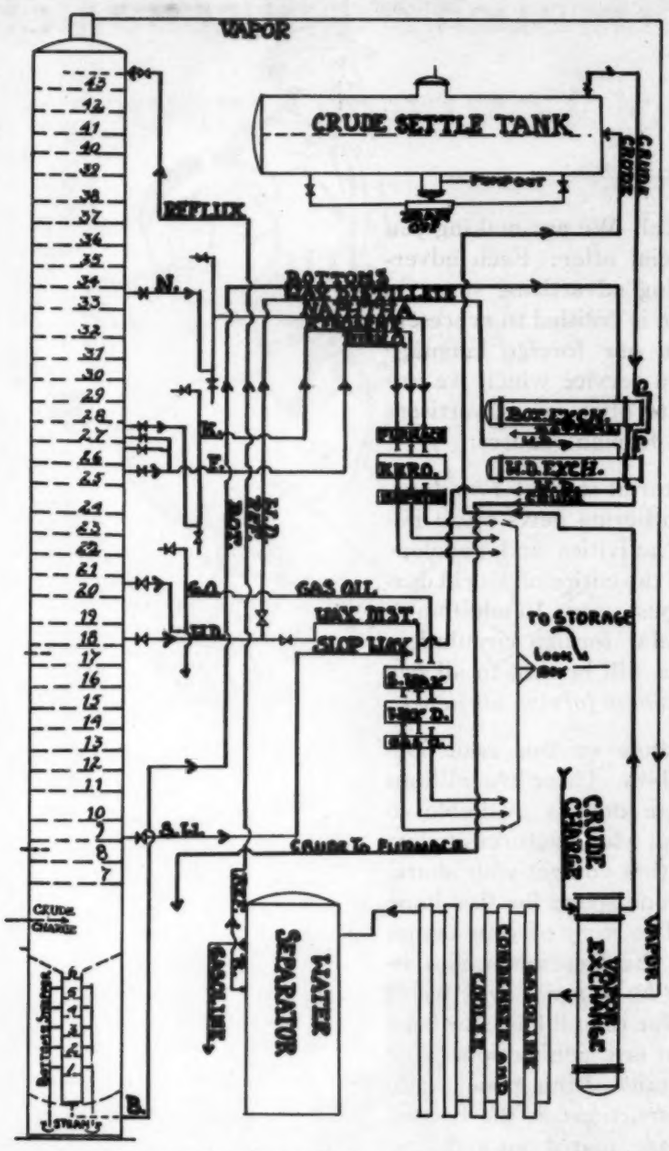
America's recognition of Russia makes this edition all the more valuable, as resumption of diplomatic relations between these two countries opens up to American manufacturers the second largest oil producing and equipment buying country in the world. The depreciation of the American dollar abroad will open up all other foreign markets to American equipment.

The Oil and Gas Journal, as usual, is *first* to help you in promoting the sale of your equipment in foreign fields under the New Deal. We are making you this special offer: Each advertiser using advertising space in this issue is entitled to representation in our foreign language section, a service which we are pleased to offer our advertisers and our foreign readers.

The editorial staff of *The Journal* is gathering news of all important activities and developments of the entire oil world during the past year. In addition to our regular foreign circulation, this issue will be sent to all *key men in major foreign oil fields.*

Forms close on this issue December 14th. There are millions of foreign dollars available to American Manufacturers today. Be sure that you get your share. Order your space for this issue today. The story of your equipment in the December 28th issue of *The Journal* will be of more value than it has ever been before in any publication. For more details of this issue, write your instructions at the bottom of this page, tear it out and send it to The Oil and Gas Journal today. Complete details will come to you by return mail.

than the materials they replace. Special kerosene cuts can be made for use in insecticide sprays to eliminate the usual spray residues usually encountered. Odor, of course, would be a matter of rigorous acid treating.



Flow chart showing cuts taken from new distillation equipment

Marketers Warned Code Violators to Be Prosecuted

(Continued from Page 12)

er. I will state that today in Texas many thousands of barrels of crude oil are being produced at a cost of more than $1.25 a barrel."

LaVergne F. Guinn, assistant United States district attorney, of Dallas, one of the five special assistants appointed by the Attorney General to prosecute code violators, warned the marketers that their operations under the code would be checked carefully.

"I much prefer," he said, "to meet you here and, in a friendly fashion, point out to you that the petroleum code of fair competitive practices is now one of the laws of the land, and that violations of that law will be as vigorously prosecuted in the United States courts, than to greet you in the courtroom."

H. M. Holden, of Houston, United States district attorney, told the meeting that his office was not to determine the constitutionality of the petroleum code, but to prosecute violations, leaving the question of constitutionality to the courts.

"As United States district attorney," Mr. Holden said, "I am sworn to prosecute violations of the laws of our country. And the new petroleum code is now one of these laws, enacted by Congress and promulgated by the President. All that remains now is for the court's officers to bring violators of the law to the bar, where they will be dealt with just exactly as the violators of any other law."

C. A. Phillips, special investigator of the Department of the Interior under Secretary Ickes, who has been in Houston several days investigating alleged code violations, said that while he was convinced that some violations of the code were due largely to unfamiliarity with the provisions thereof, there were others who were flirting with the United States courts in their operations.

There are over 950 service stations in Houston handling on an average of around 4,000,000 gallons of gasoline monthly. The average number of service station employes was set at three. Some of the larger stations have a force of 15 men.

H. A. SLACK DIES

PETROLIA, Ontario, Dec. 2.—Henry Austin Slack, a prominent oil producer in the Petrolia-Enniskillen Field, died on November 27, age 74.

New Rates and Directors Announced for International Petroleum Exposition

Exhibitors at the eighth International Petroleum Exposition and Congress which will be held in Tulsa May 12 to 19, next, will have the benefit of a reduction in the cost of exhibit space, it was decided at a meeting of the executive committee.

According to W. B. Way, general manager, the directors of the executive committee feel that due to the fact that the exposition plant is practically completed and in good shape that exhibitors should be given the benefit by reducing booth costs. A saving of approximately $80,000 will result to the more than 400 exhibitors expected, he said.

"The exposition intends to increase the service facilities so that prospective exhibitors will have every necessary want satisfied in showing to the oil industry new methods, equipment and devices which will reduce waste, increase efficiency and improve operating conditions throughout the petroleum industry.

"There are many important methods and devices perfected by manufacturers, scientists and engineers which have not as yet been introduced to the industry in a big way because of business conditions in the past three years.

"With increased oil prices and a better balance between supply and demand there will be a definite call for reconstructing plants throughout the oil fields."

The budget as submitted by Manager Way was approved by the committee.

New Directors

Twenty new directors have been appointed to serve the exposition and congress: Earl Sneed, Sneed Petroleum Co., Tulsa; Walter W. Fleming, Marathon Oil Corp.; C. H. Lieb, Carter Oil Co.; John H. Crawford, Parkersburg Rig & Reel Co., Parkersburg, W. Va.; Edward H. Salrin, Tide Water Oil Co.; Henry L. Phillips and W. L. Connelly, Sinclair Prairie Oil Co.; Charles Urschel, Oklahoma City; Clarel B. Mapes, Mid-Continent Oil & Gas Association; R. S. Ellison and R. O. Dietler, Stanolind Crude Oil Purchasing Co.; A. E. Bradshaw, president of the Oklahoma Natural Gas Corp.; Rush Greenslade, Gypsy Oil Co.; E. R. Filley and Jesse Hill, Texas Co.; John J. Conry, Carter Oil Co.; Harry C. Weiss, Humble Oil & Refining Co., Houston, Tex.; Hugh M. Stalcup, Skelly Oil Co.; W. J. Morris, Continental Supply Co., Dallas; D. C. Williams, president, Natural Gasoline Association of America, Ponca City, Okla.

Directors Who Hold Over

Directors who are members of the board from the exposition in 1930 are:

Clyde Alexander, Phillips Petroleum Co., Bartlesville.

R. H. Bartlett, president, The Braden Co., Tulsa; Frank R. Billingslea, Tulsa; A. F. Bourne, secretary-treasurer, Oklahoma Iron Works, Tulsa; W. M. Bovaird, president, Bovaird Supply Co., Tulsa; J. H. Brooks, vice president, Republic Supply Co., Tulsa; E. J. Bullock, vice president, Standard Oil Co. (Indiana), Chicago.

Ernest H. Cornelius, president, Oklahoma Steel Castings Co., Tulsa.

O. T. Dawson, division manager, National Supply Co., Tulsa; R. E. Day, president, Magneto Ignition Co., Tulsa; C. P. Dimit, Phillips Petroleum Co., Tulsa; Ray L. Dudley, president, Gulf Publishing Co., Houston, Tex.; George A. Dye, vice president, H. F. Wilcox Oil & Gas Co., Tulsa.

John M. Egan, general manager, The Oil and Gas Journal, Tulsa.

W. S. Farish, Standard Oil Co. (New Jersey), New York; W. S. Fitzpatrick, vice chairman of the board, Consolidated Oil Corp.; J. P. Flannagan, Tulsa; H. V. Foster, president, Indian Territory Illuminating Oil Co., Bartlesville; Jacob France, president, Mid-Continent Petroleum Corp., Bartlesville; Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore.

Robert F. Garland, Tulsa; J. Burr Gibbons, Tulsa; Walter Gray, district manager, Jarecki Manufacturing Co., Tulsa; Henry N. Greis, president, Burke-Greis Oil Co., Tulsa; S. A. Guiberson, Jr., The Guiberson Corp., Los Angeles.

P. D. Hays, National Bank of Tulsa; J. M. Hayner, vice president, Phantom Oil Co., Tulsa; Alf G. Heggem, president, Oil Well Improvements Co., Tulsa; Frank J. Hinderliter, vice president, Hinderliter Tool Co., Tulsa; William Holden, general manager, Tulsa Chamber of Commerce; R. C. Holmes, New York; B. E. Horrigan, Tulsa.

Fred W. Insull, president, Public Service Co. of Oklahoma, Tulsa.

Roy B. Jones, president, Panhandle Refining Co., Wichita Falls, Tex.

A. W. Leonard, vice president, Devonian Oil Co., Tulsa.

Joseph R. McGraw, president, McGraw Oil Co., Tulsa; D. F. McMahon, Tulsa; Walter Miller, vice president, Continental Oil Co., Ponca City; P. M. Miskell, Empire Oil & Refining Co., Tulsa; Harry J. Morlang, vice president, Oil Well Supply Co., Dallas; C. Morris, president, Petroleum Engineer, Dallas.

E. J. Nicklos, vice president, Continental Oil Co., Ponca City.

Clyde Pape, secretary-treasurer, Selby Oil & Gas Co., Tulsa; F. B. Parriott, Tulsa; A. W. Peake, Standard Oil Co. (Indiana), Chicago; J. Edgar Pew, vice president, Sun Oil Co., Philadelphia; Waite Phillips, Tulsa; Warren C. Platt, president, National Petroleum News, Cleveland, Ohio; Ralph B. Pringle, vice president and general manager, Tide Water Oil Co., Tulsa; F. O. Prior, president, Stanolind Oil & Gas Co., Tulsa.

E. B. Reeser, president, Barnsdall Corp., Tulsa; Harry H. Rogers, Tulsa.

E. J. Sadler, director, Standard Oil Co. (New Jersey), New York; J. H. Satterwhite, manager and assistant treasurer, Westcott & Greis, Tulsa; W. A. Schleuter, president, Refinery Supply Co., Tulsa; R. C. Sharp, Tulsa; J. S. Sidwell, assistant superintendent, Sinclair Prairie Oil Co., Tulsa; W. G. Skelly, president, Skelly Oil Co., Tulsa; O. C. Staples, Frick-Reid Supply Co., Tulsa.

M. F. Waters, president, Hanlon & Waters, Tulsa; D. D. Wertzberger, president, Wertzberger Derrick Co., Tulsa; T. R. Weymouth, Columbia Gas & Electric Co., New York.

ASSOCIATION ELECTS OFFICERS

The Gas-Powered Industrial Truck Association has been organized with the following officers: President, Ezra W. Clark, vice president, Clark Tructractor Co., Battle Creek, Mich.; vice president, L. J. Kline, general manager, Mercury Manufacturing Co., Chicago; secretary-treasurer, John A. Cronin, 60 East Forty-second Street, New York. The directors include the president and the vice president and the following: D. H. Ross, Ross Carrier Co., Benton Harbor, Mich.; R. C. Howell, Howell Industrial Truck Co., Cleveland, and W. F. Hebard, W. F. Hebard Co., Chicago. A code of fair practice has been adopted and the association has been elected to membership in the Machinery and Allied Products Institute.

DEATH OF JOHN H. DICKSON

John H. Dickson, aged 65 years, vice president of the Gibson-Zahniser Oil Co., died in Tulsa after a brief illness. Mr. Dickson was well known among eastern oil men before coming to Oklahoma in 1920. He had operated in Pennsylvania, West Virginia and Mexico previous to settling in Tulsa. Mrs. Dickson and two daughters survive. R. M. Dickson, a brother residing in Harmonsburg, Pa., was present at the funeral, which was held in Tulsa.

Rotary Wells Controlled Through Application of Theory and Practice of Directed Drilling

By L. G. E. BIGNELL
Petroleum Engineering Editor

A story by the writer headed "Mid-Summer Rotary Drilling Fantasy," published in the August 21, 1930, issue of The Oil and Gas Journal suggested a combination of known rotary practices into a drilling method that would permit completion of more than one well from one central or common hole located in the center of a lease. The story outlined things that might be done if drilling practices and experiences were combined to direct the hole to a predetermined objective. A model illustrating the proposed scheme was exhibited at the International Petroleum Exposition held in Tulsa in the fall of 1930.

In the current issue of "Mining and Metallurgy" published by the American Institute of Mining Engineers, New York City, there is an article by R. E. Allen, engineer, Los Angeles, Calif., describing methods of "Directed Drilling" now in actual use in California fields. Mr. Allen's article is reprinted here, with the permission of the A.I.M.E., and goes to prove that ideas do crystallize into actualities, although the article may not have suggested the methods to the engineers now practicing "directed drilling." Mr. Allen's article follows:

Theory and Practice of Directed Drilling*

One of the most unusual oil field engineering accomplishments of the past two years is the development and rapid advance in the directed drilling of wells. Directed drilling as referred to herein is the controlled steering of the drill stem in the required direction to a given location in the oil sand.

The deliberate drifting of holes is an act so far removed from what has been considered good drilling practice that all of the old questions of correlation, drillability and production difficulties are revived. Only a few years ago, during the boom days of Seminole and Santa Fe Springs, the crooked hole problem, as it was then called, occupied a primary position among the topics of the day in the fields of California and the Mid-Continent. The net result of all the discussion and study at that time was the conclusion that oil wells should be drilled with as little deviation from the vertical as possible and that crooked holes with elbows and dog-legs were to be avoided because of the drilling and producing difficulties encountered therein but that many nonvertical holes were slanting or angling rather than crooked and were not a serious problem.

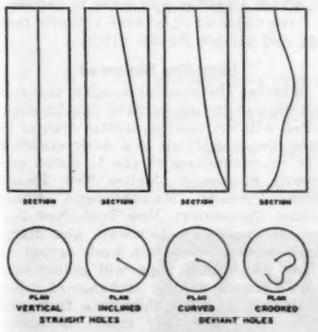


Fig. 1.—Types of holes

Figure 1 illustrates the general types of holes that may be drilled and explains why some nonvertical holes are not crooked and offer no particular drilling or producing difficulties because their course is such that no alternate reversing stresses are imposed on drill pipe, rods or tubing. The perfectly vertical hole is probably the scarcest thing in the oil fields and the slightly to severely crooked hole is probably the most common type because hole straightening efforts frequently result in angular and directional changes and the consequent formation of a dog-leg hole.

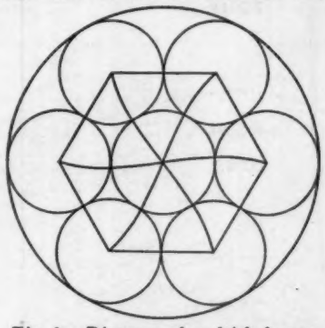


Fig. 2.—Diagram of multi-hole possibilities on a single location

The directed hole, if successfully controlled, may have no bends but rather a course gradually deviating farther and farther from the vertical so that when the oil sand objective is reached it is not uncommon for holes to be 60 degrees from the vertical.

Directed drilling, although still comparatively new in the oil-producing business, is a practice of many years' standing in the mining of metals and nonmetals where it is common to drill several radiating holes from one location for the purpose of blocking out ore bodies and mineral deposits. In mineral survey holes the depths are relatively shallow compared with deep oil wells, but the requirements of direction control and accurate hole surveys are even more exacting than with oil wells.

Oil wells are not drilled primarily to survey the oil sand so the only reasons for drilling deviant holes are to save expense or secure more oil production. Just as many other practices have both a proper use and an abuse, so has the directed drilling of oil wells. However, the use which may be made of the practice does not affect the consideration due it as a drilling accomplishment.

One use to which directed drilling may be put is that of avoiding the expense of drilling on an inaccessible surface location, such as a submerged or precipitous one, by using a more convenient and accessible location as a drilling site. Sometimes considerable depth of hole may also be saved by drilling from a topographically lower location such as exists in some parts of the Ventura County, California, area.

Another important use of directed drilling is found in offshore drilling in the ocean fields of California and the lake and bay fields of the Gulf Coast and Venezuela. In many such fields the cost of an adequate foundation for the derrick exceeds the cost of drilling the well. In such locations it is possible to drill several holes from one foundation and derrick and by properly directing the holes an area equal to that of six or seven normal locations may be penetrated and drained. The possibilities offered by direct drilling from isolated "steel islands" are interesting. Such an island or pier-connected foundation may very well serve as the drilling site for seven wells as illustrated in Figure 2, which indicates a plan for a reasonably vertical center hole surrounded by six holes sprangling out in as many directions, the general effect being that of a Maypole with six ribbons leading down and away from the top of it. No serious mechanical difficulties confront such a practice and it is evident that the saving of expense would be considerable even though foundations cost no more than $40,000 each. Another saving that might be made lies in the possibility of drilling two holes simultaneously or at least concurrently. By exercis-

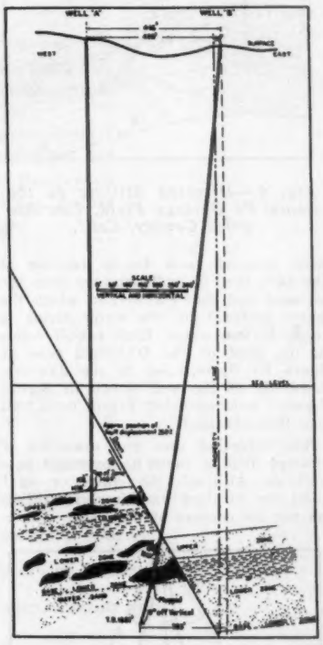


Fig. 3.—Example of directed drilling in Mt. Poso Field, Kern County, Calif.

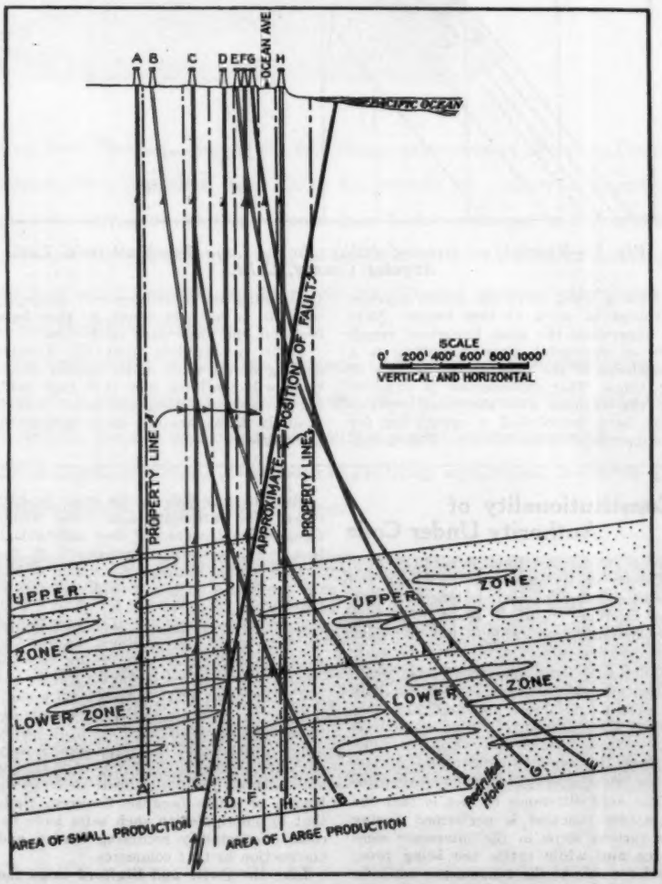


Fig. 4.—Example of directed drilling, Huntington Beach oil field, Orange County, Calif.

*Author's title. Reprint of copyrighted article from December issue "Mining and Metallurgy" with permission of American Institute of Mining Engineers.

ing some ingenuity drill pipe might be run into an adjacent hole as pulled from one hole, thereby eliminating the racking of most of the pipe and virtually halving the combined round trip time of the holes.

Various actual applications of directed drilling are illustrated in Figures 3 to 6, inclusive. Figure 3 illustrates a condition where directed drilling has been used for crossing a fault to obtain production in the Mount Poso Field. Figure 4 is a generalized representation of conditions at Huntington Beach where it is also necessary to drill through a fault to reach the oil that lies beneath inaccessible and submerged offshore locations. Figure 5 illustrates a condition in the Long Beach Field where one well is located so as to be unproductive if drilled vertically and had to be directed up structure to obtain production, whereas the other well presents one of the

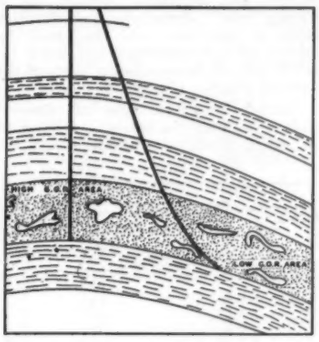


Fig. 6.—Directed drilling in the Santa Fe Springs Field, Los Angeles County, Calif.

most unusual cases known because of the fact that it drills upward into the oil sand and shows a well in which the water excluded by the water string is really bottom water. High gas-oil ratios in the crest of the O'Connell zone at Santa Fe Springs led to the directing down dip of the well shown in Figure 6 and a productive low gas-oil ratio well was thus obtained.

The foregoing uses and examples of directed drilling show its practical possibilities. Although the ethics or legal questions involved in directed drilling are not the concern of this paper it may

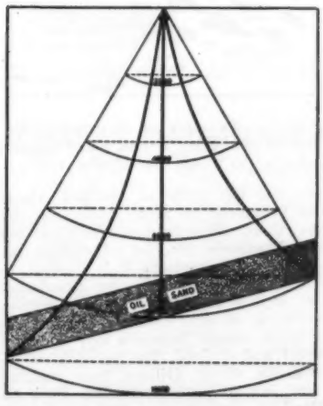


Fig. 7.—Practical range of directed drilling

be here remarked that the intentional crossing of property lines is generally considered to be an abuse of the practice because of the trespass thus committed. To discourage such abuse, laws have been proposed to the general effect that the deviation of a well shall not be sufficient to extend beyond the boundaries of the property on which it is located. Thus a large property would be the first essential of a directed drilling program that was not intended to take oil belonging to others.

The actual technique employed in directed drilling is chiefly based on experience, there being only a handful of men who can guarantee to complete a hole on any specified acre within a circle having the surface location of the well as its center and with a diameter equal to the vertical depth of the hole. The practical range of directed drilling is illustrated in Figure 7 in which it is shown to be perfectly feasible to bottom a well at a distance from the derrick equal to approximately one-half of the depth of the well.

drilling of the hole is done with the aid of such devices as bent drill collars and drill singles, side hill and specially dressed bits, knuckle joints, fixed and removable whipstocks, variable drilling weights and other paraphernalia. Like many other accomplishments, however, it is not so much the equipment as the ability to use it properly that is important. Efforts at directed drilling by novices have generally been dismal failures. It is to be assumed, of course, that more experienced men will become available as the practice develops and that

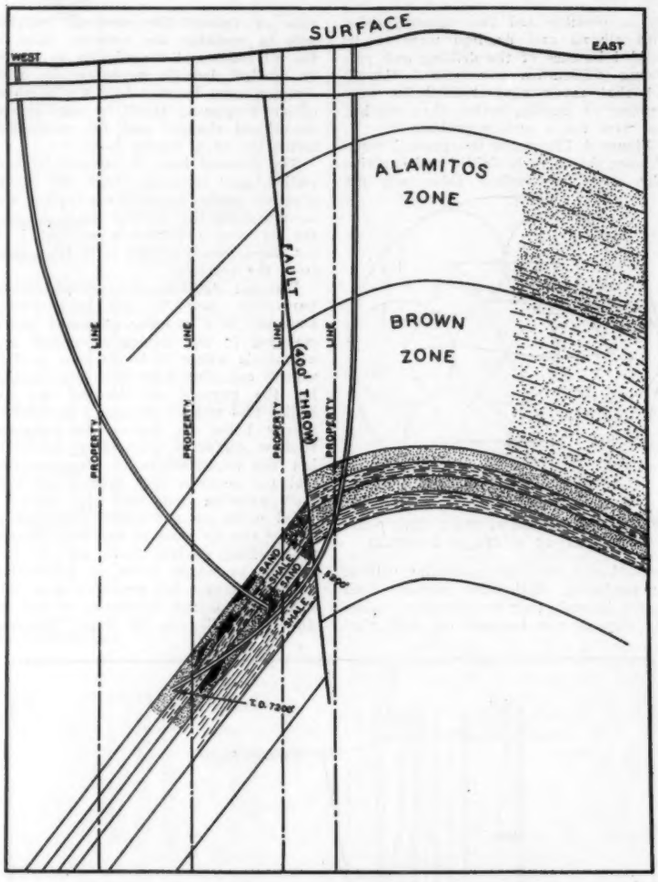


Fig. 5.—Example of directed drilling in the Long Beach oil field, Los Angeles County, Calif.

Now a word as to the actual practice involved in work of this nature. Next to experience the most important requisite of successful directed drilling is a knowledge of the position of the hole at all times. This information is supplied by the various well surveying services that have established a reputation for accuracy and dependability. The actual

the details of procedure will gradually cease to be a trade secret, as they have been for the most part up to now.

It is not unlikely that the directed drilling of oil wells under special conditions will continue, now that such drilling is so readily accomplished and if properly done does not cause production difficulties.

Constitutionality of Authority Under Code

(Continued from Page 18)

of some of its necessary incidents and facilities when considered alone and without reference to their association with the movement of which they were an essential but subordinate part."

The petroleum industry is the third largest in this country. The great bulk of gasoline does flow in interstate commerce. The function of filling stations is as essential to that flow as is the function of the commissionmen and dealers in the packing industry at the stockyards.

The only difference of fact is that the intrastate function is performed during the various steps in the interstate commerce and while cattle are being processed for sale to the consumers; while in the present case the function of the distributors is performed after interstate commerce has concluded.

But the principle is the same in both cases. The intrastate acts come within Congressional control if they substantially affect interstate commerce. * * *

The Grain Futures Act came before the Superme Court in Board of Trade v. Olsen, 262 U. S. 1.

In an elaborate opinion Mr. Chief Justice Taft discussed the trading in grain and found that there was a steady flow of interstate commerce through Chicago and the other great grain markets quite similar to the flow of cattle and meat described in the Swift and Stafford cases.

The court found that this statute only purports to regulate intrastate commerce and sales of grain for future delivery on boards of trade because Congress finds that by manipulation such sales have become a constantly recurring burden and obstruction to that commerce.

Like the Swift and Stafford cases the acts of intrastate commerce regulated by the statute occurred between the time the grain left the farm and the time its ultimate product reached the consuming cities. But there was a substantial obstruction to interstate commerce, and for that reason the control of the intrastate commerce was held to be within the power of Congress.

In my opinion it follows from the foregoing decisions of the Supreme Court as applied to the evidence in this case that the action complained of by the plaintiffs is within the power of Congress under the commerce clause of the Constitution. Therefore it becomes unnecessary for me to discuss the other grounds upon which counsel for the defendant contend that the National Recovery Act may be sustained.

The foregoing opinion is supported by recent decisions of a number of trial courts.

Wallace, Secretary of Agriculture v. Calistan Packers, Inc., U. S. District Court for the Northern District of California, St. Sure, D. J.; Economy Dairy Co. v. Wallace, Secretary of Agriculture, 61 W. L. R. 633, and Capital City Milk Producers' Association v. Wallace, Equity No. 56,113 in this court, opinions by Justice O'Donoghue, all involve the Agricultural Adjustment Act.

Southport Petroleum Co. v. Ickes, Secretary of the Interior, 61 W. L. R. 577, opinion by Justice Cox of this court, and Texas v. Standard Oil Co. et al in the District Court of Texas, at Austin, opinion by Presiding Judge Moore, involve the National Industrial Recovery Act.

The motion of the plaintiffs for an injunction is denied, and the motion of the defendant to dismiss the bill of complaint is sustained.

JESSE C. ADKINS,
Dec. 1, 1933. Justice.

Tax Evasions Prove Obstacle to Program

(Continued from Page 12)

majority of consumers prefer to buy from stations selling these products and in many cases continue to buy them even in areas where other retailers are offering concessions of one or more cents per gallon.

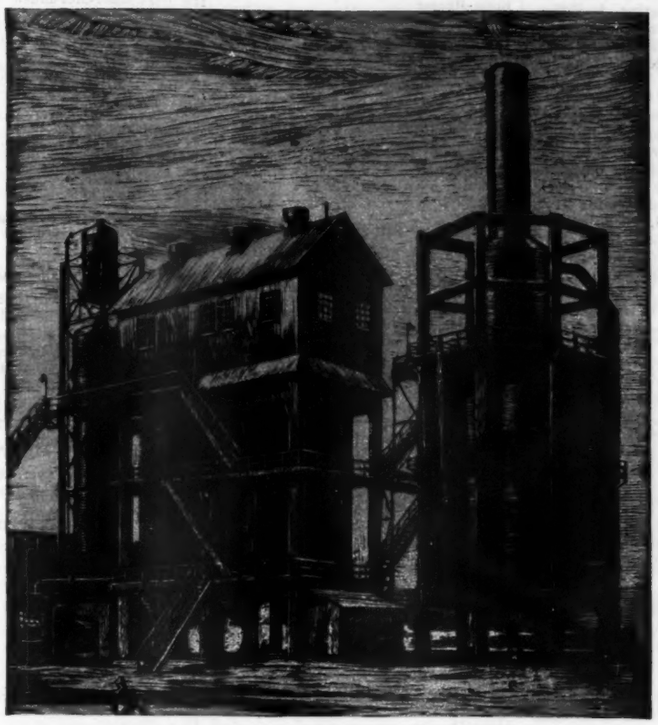
The major distributors lose in two ways through this substitution evil. The volume of business per unit of distribution decreases and their products are discredited with consumers through the substitution of inferior products. Both of these evils are reflected in increased costs and in part account for the fact that investigations have shown that merchandising costs of the larger distributors are often greater than those of small operators. This comparative situation was revealed in several cases in connection with the price control program of the Government in which an effort was made to establish a fixed differential between refinery tank car and service station prices.

Remedies Suggested

Whether the gasoline evasion and substitution evils just outlined can be eliminated without making drastic changes in enforcement methods is a moot question. The representatives of the 11 states previously mentioned (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware and Maryland) meeting here last week agreed on plans which they hope will reduce evasion. Through a quick exchange of information of gasoline shipments from one state to another they expect to reduce this method of evasion in which gasoline is billed tax free for interstate shipment and then is diverted and sold within the state in which the shipment originated. Lewis R. Glavis, chief of the enforcement division of the National Petroleum Code Administration, was present and plans were discussed to secure the aid of the Federal Government which has exclusive jurisdiction over navigable streams in this section which are widely used in bootleg operations and are much more difficult to check than railroad shipments.

Local reports indicate that the oil business may inherit some of the bootleg operators in the liquor industry whose

THE HOLMES-MANLEY PROCESS



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The selection of processes by the refiner should be made with reference to his existing refinery or cracking equipment; plus a view to the advantages resulting from coordinated research, development, engineering and plant design. This insures integrated progress.

Under the broad licensing rights of Gasoline Products Company, combination units may be designed, incorporating one or more of the outstanding features of the several processes. This policy guarantees to the refiner that the cracking unit he installs will be adapted to his particular requirements.

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business has been dropping off rapidly in recent weeks and which presumably will cease entirely in many states after this week. It is said that some of these operators have complete facilities including boats, terminals and well trained sales organizations which will be transferred to the oil business from the liquor business provided the owners become convinced that the profits will be adequate.

Interstate committees similar to the one formed here previously had been organized for the Rocky Mountain territory and one for the Middle West. In regard to the activities of these state and Federal tax collection representatives it is pointed out that their sole interest in the matter is the collection of additional revenue. The fact that evasion and substitution weaken the markets of the entire oil industry is only an incidental development to them. Some have gone on record as opposed to any higher prices for gasoline, realizing possibly that the higher schedules might result in a public reaction against the excessive taxes.

This in effect means that the burden of solving these problems rests with the industry. So far as the writer knows nothing new has been suggested in recent discussions by oil men as to how the industry can reduce evasion. The organization which has been set up under the NRA in all parts of the country can serve as a vigilante and take direct responsibility in seeing that no evasion takes place. This matter probably will be given serious consideration in the next few weeks. Others are suggesting that the Federal Government assume the entire burden of collection and then redistribute among the states. This plan it is known will have the strong opposition of politicians in many states. Others are urging a national campaign to acquaint the consumers with the tax burden and thus secure their reduction which would tend to reduce the amount of evasion.

A. M. McQUEEN PASSES ON

TORONTO, Ontario, Dec. 5.—A. M. McQueen, former vice president of Imperial Oil, Ltd., and International Petroleum Co., died Monday night at his

A. M. McQUEEN

home here after an illness of two weeks. His death closely follows that of C. O. Stillman, formerly president of Imperial Oil, who retired on June 13 last with Mr. McQueen.

Born in Petrolia in the heart of eastern Canada's oil field in 1868, Mr. McQueen began his career in the oil business as a boy, serving producing and refining companies. He joined Imperial Oil in 1916 to take charge of the company's search for a Canadian supply. He directed Imperial activities in the Turner Valley and at Fort Norman in the Northwest territories. He also directed International's producing enterprises in Peru and Colombia. He is survived by his widow, one son and two daughters.

Texas Allowable Set at 888,000 Barrels; Allocations to the Various Fields

AUSTIN, Tex., Dec. 2.—The Railroad Commission of Texas has issued a special order amending the order of November 14, 1933, fixing allowable production of crude oil in various fields and districts in Texas, as follows:

Whereas, in view of the evidence, including, among other matters, the physical conditions in the various fields, the transportation and marketing facilities, the reasonable market demand, the reasonableness of the allocation as between fields of the allowable production under previous orders; and

Whereas, the Railroad Commission of Texas finds from the evidence that the sum total of the maximum reasonable market demand for oil produced in this State is 888,000 bbls. of oil per day during the period beginning at 7 o'clock a.m., December 1, 1933, and ending at 7 o'clock a.m., December 31, 1933; and

Whereas, the commission finds that waste exists or is imminent and that to prevent such waste of oil and gas, as the same is defined by the applicable statutes, it is necessary to restrict the production of oil in the State as provided for herein:

Now, therefore, in order to prevent the waste of oil and gas in the State of Texas, which will take place by authorizing production over the said period in excess of the reasonable market demand, it is hereby ordered that beginning at 7 o'clock a.m., Friday, December 1, 1933, the production of oil in Texas, and the various fields therein, until further ordered, shall not exceed 888,000 bbls. daily, and, in order to adjust the current allowable production of crude oil in Texas, as nearly as may be, to that amount, the order of this commission entered November 14, 1933, fixing the allowable daily production of the various fields and districts in said State be amended in the following particulars:

East and Central Texas

1. Rule 23(a) of Division 3 of that portion of said order which governs the East Texas Field is amended as follows:

"Rule 23(a). It is ordered that during each 24-hour period beginning at 7 a.m., Central Standard Time, Friday, December 1, 1933, the owner or operator or manager of each well in the East Texas Field shall be permitted, either collectively or individually to produce daily from each well a maximum of 5.4 per cent of its average hourly potential producing capacity as determined by the commission."

2. Rule 2 of Division 4 of that portion of said order which governs the East Central Texas Field is amended as follows:

"Rule 2. Not more than 43,896 bbls. of oil per day shall be produced from said fields in said district during any day of the effective period of this order. Said 43,896 bbls. to be allocated to the various fields in the following amounts:

	Bbls.
Van	37,500
Boggy Creek	615
Currie	170
Mexia	2,320
Powell	2,715
Richland	42
Wortham	134
Corsicana	400

3. Rule 2 of Division 6 of that portion of said order which governs the West Central Texas district is amended as follows:

"Rule 2. Not more than 26,500 bbls. of crude oil shall be produced from said district during any one day of the effective period of this order."

West Texas

4. Rule 4, Division 7 of that portion of said order which governs the West Texas district is amended as follows:

"Rule 4. Not more than 120,248 bbls. of oil per day shall be produced from said district during any day of the effective period of this order which shall be distributed to the various fields therein as follows:

	Bbls.
Andrews	275
Big Lake	13,800
Church and Fields	5,760
Gulf-McElroy	4,584
McCamey	3,456
Howard-Glasscock	13,300
Wink-Leck	15,600
Ector-Harper	150
Ector-Penn	5,250
Yates	41,500
Loving County	2,240
Ward County	5,150
Scarborough	900
Irion	16
Toborg	935
World	665
Phillips-Pryor	30
South Cowden	287
North Cowden	1,000
Mitchell-Scurry and East Howard	1,375
Pecos Valley	266
Skelly-Grayson	99
Taylor-Link	560

Southwest Texas

5. Rule 2 of Division 8 of that portion of said order which governs the Southwest Texas district is amended as follows:

"Rule 2. Not more than 45,709 bbls. of crude oil shall be produced from said district during any day of the effective period of this order and the same shall be distributed to all of the fields in said district as follows:

	Bbls.
North Government Wells	8,460
South Government Wells	1,330
Old Government Wells	473
Sarnosa	980
Salt Flat	4,720
Darst Creek	9,420
Hilbig	775
Escobas	1,880
Jacobs	200
Kohler	108
Laurel	312
Los Olmos	417
Mirando City	578
Mirando Valley	60
Chapman-Abbott	680
Cooksey	45
Dale	210
Bateman	532
Dunlap	30
Eckert	495
Henne-Winch-Farrias	35
Albercas	139
Alsworth	40
Aviators	443
Callihan	70
Carolina-Texas	106
Charco-Redondo	13
Cole	185
Cuellar	198
Driscoll	100
Gas Ridge	13
Chicon Lake	28
Alta Vista	10
Moca	525
Randado	403
Rio Grande City	70
Roma	10
Saxet	1,400
S. R. C.	100
West Cole	670
Branyon	28
Buchanan	57
Yturri-Southton	81
Eagle Hill	320
Larremore	60
Luling	6,356
Lytton Springs	520
Manford	57
Minerva-Rockdale	260
Somerset	897
Taylor-Ina	20
Thrall	60
Yost	110
Palo Alto	10
Van Ormy	10
Bobrose	100

Gulf Coast

6. Rule 2, Section A, Division 9 of that portion of said order governing the Gulf Coast district is amended as follows:

"Rule 2. Not more than 148,120 bbls. of oil per day shall be produced from said fields of said district during any day of the effective period of this order which shall be distributed to said fields as follows:

	Bbls.
Allen	17
Arriola	1,085
Barbers Hill	15,450
Batson	454
Big Creek	1,000
Blue Ridge	900
Boling	287
Brenham	15
Buckeye	478
Clay Creek	700
Conroe	49,000
Damon Mound	800
Esperson	1,000
Fannett	520
Goose Creek	2,600
Greta	7,500
Hankamer	1,000
High Island	6,000
Hull (old)	3,600
Hull (new)	4,000
Humble	3,475
Keeran	200
Spindletop	2,500
Thompson	12,000
West Columbia	2,580
Hockley	20
Kingsville	30
Livingston	1,900
Lost Lake	180
Lucas	51
Manville	1,800
Markham	650
Mykawa	230
Nash	20
North Dayton	119
O'Connor-McFadden	125
Orange	650
Orchard	1,500
Pettus	2,300
Pierce Junction	3,500
Port Neches	860
Raccoon Bend	3,500
Refugio-Fox	*3,960
Rockland	10
Saratoga	797
Slick	24
Sour Lake	928
South Liberty	413
Sugarland	6,000
Tomball	1,300
White Point	32

*No well is Refugio-Fox area shall be permitted to produce in excess of 250 bbls. of oil daily.

Panhandle and North Texas

It is ordered that no change be made in current allowable production in the Panhandle district and the North Texas district fixed by order of November 14, 1933, and that this cause be held open on the docket for such further orders as may be necessary.

ROCKY MOUNTAIN FIELDS

Estimated average daily production in the week ending December 2:

WYOMING

	Bbls.
Salt Creek	18,570
Big Muddy	1,750
Badger Basin	40
Byron-Garland	50
Byron-East	10
Dallas Derby	280
Dutton Creek	70
Elk Basin	550
Ferris	0
Frannie	240
Grass Creek	670
Greybull	10
Hamilton Dome	640
Hudson	200
LaBarge	1,070
Lance Creek	220
Lost Soldier	1,850
Mule Creek	100
Midway	70
Notches	shut in
Oregon Basin	200
Osage	880
Pilot Butte	30
Rex Lake	shut in
Rock River	1,130
South Casper	shut in
Poison Spider	240
Teapot	20
Warm Springs	0
Total Wyoming	28,940

MONTANA

Buckley-Border	220
Cat Creek	690
Cut Bank	1,180
Dry Creek	930
Kevin-Sunburst	3,320
Lake Basin	50
Pondera	600
Total Montana	6,990

COLORADO

Florence	380
Fort Collins and Wellington	610
Iles Dome	680
Moffat	510
Orchard	130
Rangely	90
Tow Creek	200
Total Colorado	2,600

NEW MEXICO

Artesia	590
Cooper area	60
Empire area	0
Eunice area	1,050
Getty Pool	0
Hobbs	33,560
Hogback	320
Hospah	shut in
Jal	1,630
Lea area	2,220
Jackson	1,130
Maljamar	230
Rattlesnake	720
Table Mesa	100
Total New Mexico	41,560
Total all fields	80,090
Total previous week	89,920
Difference	830

FOR MAXIMUM RECOVERY AND REDUCED LIFTING COSTS

Repressure With TRANSIT Four Cycle Gas Engine Compressors

TRANSIT offers the most modern of gas engine driven compressors for maintaining or building up depleted rock pressures economically by repressuring with gas or air.

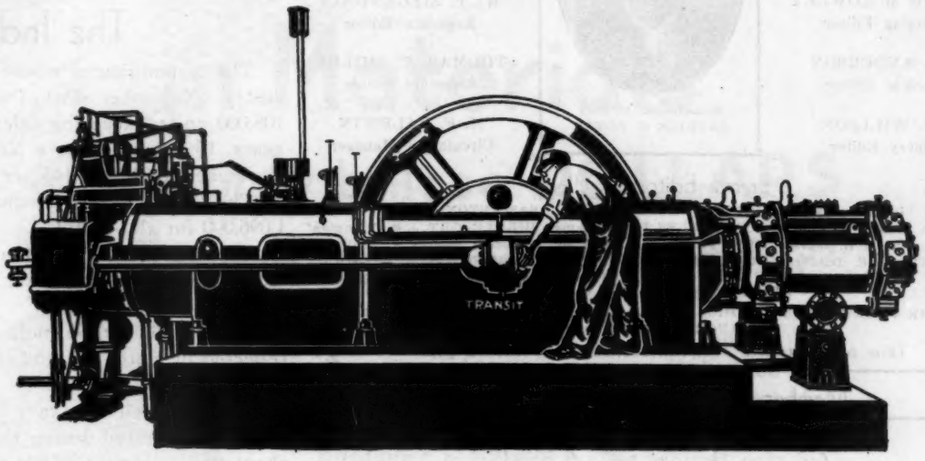

Fig. 1926—17 x 24" Twin, 180 Rpm., 170 H.P., 4-Cycle, Single Acting, Direct Connected, Opposed Type Gas Engine Gas Compressor

Here is an engine designed and built for hard continuous service—an engine which will give you a dependable source of power over a long period of years with low operating costs and entire satisfaction. The four stroke, four cycle design, having a long stroke and relatively slow speed makes it the ideal type for repressuring service.

A few of the outstanding features of the TRANSIT gas engine driven compressors are:

1. **Dependability—The name TRANSIT has appeared on gas engines for over forty years.**
2. **Simplicity, ease of operation and easy starting.**
3. **Uniform load distribution in all cylinders.**
4. **Back-firing eliminated due to a special regulating valve and mixer.**
5. **Lowest possible fuel consumption.**
6. **Quiet and smooth in operation and capable of withstanding a 25% overload without stalling at standard rated speeds.**
7. **Low maintenance cost due to efficient lubrication and cooling system, unusually large bearings and special attention to the design of all reciprocating parts.**
8. **Accessibility—All parts of the engine easily accessible for adjustment.**

TRANSIT Gas Engine Compressors can be furnished in sizes ranging from 155 to 1500 horsepower and for any desired pressures.

Literature describing these engines in detail will be furnished upon request.

NATIONAL TRANSIT PUMP AND MACHINE CO.

OIL CITY, PENNSYLVANIA

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THE OIL AND GAS JOURNAL

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Court Sustains Code

Secretary Ickes promises immediate criminal prosecution of violations of the oil code following what he describes as a clear-cut legal precedent upholding the constitutionality of the authority given under the code to prevent unfair competition in the petroleum industry.

The case involved the use of premiums on which the oil administrator says:

"Further, the price cutting exemplified by premiums brings on direct price cutting by competitors and a consequent slashing of prices by other dealers spreading over wide circles and across state lines, dislocating normal markets and preventing the normal flow of gasoline and other petroleum products in interstate commerce."

The judicial prohibition of that practice paves the way for dealing with other methods of price cutting and unfair competition and should prove, as Mr. Ickes says, "an added bulwark" to efforts to enforce the petroleum code where enforcement is proving most difficult.

The effect of this decision should be most wholesome by carrying conviction that the code is not to be trifled with. With the constitutionality of the authority established the full weight of the power of the Federal government is to be used against violators.

There is also encouragement for those who are anxious to do their part to stabilize the industry but who have been intimidated by violations, in Mr. Ickes' further statement that:

"The many who are honestly attempting to abide by the code may be assured that the few who attempt to operate contrary to its provisions will be brought swiftly to justice."

Just this note was needed to strengthen those who have been discouraged by unfair competition and the fear that unscrupulous rivals would "get away with it."

Once it is seen that the code is going to be enforced and that unfair competition is to be stamped out there will be an end to faintheartedness and doubt in compliance.

This must apply also to the twin evils of tax evasion and substitution, discussed in a special article elsewhere in this issue.

Price cutting, through non-payment of the gasoline tax or through substitution of unbranded motor fuels for branded products, undermines the construction of an adequate price structure. The percentage of total volume may be fractional but its concentration in disturbed areas can be destructive over an increasing territory as competitors are forced to meet lowered prices.

It is a problem that cannot be temporized with and must be met for the good of the whole industry. It should be dealt with as directly and energetically as the giving of premiums or any other form of unfair competition.

If it be true "that no industry can stabilize itself even with government aid if the bootlegger has an important place in some phase of its operations" then it is clearly up to the industry and to the government to see that the bootlegger is stamped out.

To assume that they cannot do so is too humiliating to be considered.

The Indispensable Car

The resumption of motor car buying is good news for the oil industry. November sales of new passenger automobiles approximated 108,000 units, exceeding sales in the same month for the past three years, 16 per cent above November, 1930, totals; 42 per cent over November, 1931, and 145 per cent above November, last year.

The total for the 11 months is about 1,500,000 against a total of 1,096,000 for all of 1932.

Motor truck sales for the first 10 months were 211,600 compared with 180,400 for all of last year, October sales being 85 per cent greater than a year ago.

Improvement in business and purchasing power will be promptly reflected in motor car and truck sales and consequently in gasoline and motor oil gallonage.

How indispensable cars have become to American families has been demonstrated during the depression. "Giving up the car" was about the last resort of necessity.

A censorious critic who thought this a sign of extravagance and complained about men on "made work" clinging to their cars was answered by a relief worker with more practical knowledge of the problem.

Before cars were so common it was pointed out, the cost, in periods of depression, of moving unemployed from town to town was a heavy drain on relief funds. Now the unemployed use their cars in the search for work.

Those who have been unable to hold on to their cars and those who have been desperately striving to keep the "old bus" running know what will be about the first thing they will do with returning prosperity.

And the gasoline consumption curve is going back up with them.

Contact Men Need Aid

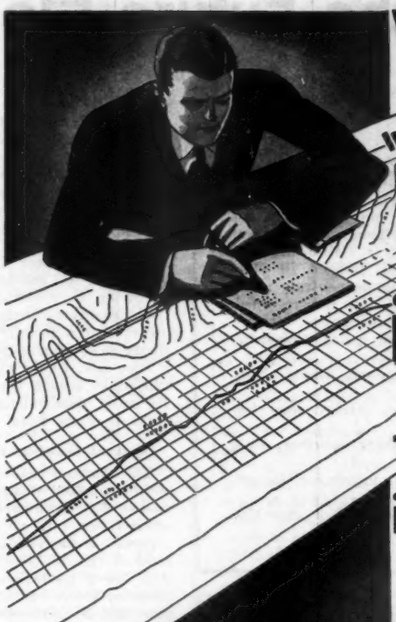
The Texas Automotive Maintenance Association writes to Chairman Wirt Franklin of the Planning and Co-ordination Committee suggesting the urgent need for co-operation with the contact men of the industry at the service stations. The association incidentally compliments The Oil and Gas Journal on the efforts it has made in this direction.

While the code committees and sub-committees are busy on the problems of the producing, manufacturing, transportation and marketing divisions of the industry it should not be forgotten that the man at the service pump, the industry's main contact with the public, has problems of his own.

A public uninformed of industry costs, heedless of tax ratios, is apt to jump at conclusions about unfair competition and cut prices and the industry should fortify its representatives with the answer, by both publicity and personal instruction and assistance.

If the industry is to be stabilized on a profitable basis it is essential that the consuming public should be in sympathy with that purpose as part of the program of national recovery. Consumers should be shown that unfair competition can offer the bait of price cutting only because it is unfair and that unfairness reacts upon the whole national structure.

NRA MEMBER U.S. WE DO OUR PART



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THE savings it is possible to make initially, by using a cheaper joint, may look good on paper; but just a few faulty joints may quickly rub such "savings" out. Continual expense *following* installation can be avoided only by using the best, not the cheapest, joint construction at the start.

The true cost of any joint includes labor and material at the time of installation, plus leakage losses and maintenance expenses during the life of the line or main, plus the trouble and expense caused by service interruptions. *Use Dresser Couplings throughout for:* greatest speed of construction; permanent tightness; minimum expense for maintenance, repair, and leakage. Nearly half a century's field records show that factory-made Dresser joints eliminate the uncertainty of the human element . . . insure the *most economical* construction and operation.

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SAVE WITH DRESSER COUPLINGS

Group 3 Market Continues Sluggish, Awaiting Decisive Signs of What the Future Holds

By T. F. SMILEY

In the absence of decisive news as to what the next few weeks may hold for manufacturers and distributors of petroleum products, the gasoline market in the Oklahoma (Group 3) territory continued this week its policy of waiting till the landing place is clearly in sight before making a jump.

Jobbers manifested no inclination to buy. Refiners were in no rush to sell, and most of them refrained from quoting prices for more than a week ahead because of the uncertainties with which the oil industry appeared to be overhung. Prices sagged in several spots.

Although it was recognized that possibilities of profit lay in the purchase of gasoline at current prices, this speculative opportunity was attended by uninviting hazards which kept jobbers from filling their tanks. So many dreams of the last year have failed to come true that they express themselves as unwilling to buy for a rise unless there is clear evidence that the rise will be sufficient to compensate them for carrying charges and for loss of the half-cent emergency tax which they must pay if they buy before December 31 and which will not be refunded to them if they sell after that date. This means, they say, that a price advance of at least three-quarters of a cent must be plainly visible.

Disinclined to Guess

It is pointed out that the tied-up capital, inventory losses and the taxes which may be imposed upon stocks held at the close of the year should be figured as adding approximately one-eighth of a cent a gallon to the cost of the gasoline. This and the half-cent Federal tax to be removed January 1 make a total of five-eighths of a cent for which the jobber must be reimbursed before any sign of profit comes into view. To gain an eighth of a cent profit then he must sell at not less than three-quarters of a cent more than the price he pays. While the jobber concedes there is a fair chance of this three-quarters of a cent being obtainable, recent market history has left him in no mood to stake much on his skill as a guesser.

Official news from Washington, confirming the report published here last week, that the oil industry must agree upon a price control plan satisfactory to the administration or else the Government's own price control program will be put into effect, was received with only a ripple of interest, although the schedules tentatively fixed in Secretary Ickes' order of October 16 named 6½ cents as the price for regular grade gasoline in the Mid-Continent area.

Quotations for the regular and premium grades of U. S. Motor gasoline, which had remained almost motionless for the last month, receded an eighth of a cent, the middle octane being quoted at 4⅝ cents and the high octane at 5⅜ cents.

East Texas Busy Again

Among influences tending to soften the Group 3 gasoline market the last week is the fact that refineries in the East Texas area which had been shut down for periods of varying length have resumed operation and others have increased schedules of runs to stills for December.

It is believed that, barring some distinctly stimulating news from Washington affecting the manufacture and sale of petroleum products, the present market inertia and caution are likely to persist till about December 20, when a sharp increase in the number of inquiries is expected. Purchases presumably will be for delivery after December 31, when prices will fall one-half cent automatically owing to removal of the emergency tax. Conditions prevailing this year indicate that a usually dull period for refinery sales managers will be turned into a busy one. Under normal conditions the Christmas season finds little activity in the sales department. Signs point to a reversal of the usual order in 1933.

Natural Gasoline Continues Descent

The natural gasoline market, which showed marked weakness last week, continued its downward drift, yielding a quarter of a cent all along the line, with reports of concessions from even these reduced figures. The belief prevails that still lower quotations are likely to be recorded before buying in substantial volume will be witnessed.

The week saw no change in prices of furnace oils, gas oils and fuel oils, though there was a noticeable slackening in the demand for distillates, ascribed to unseasonably warm weather in the upper Mississippi Valley and the Great Lakes region.

Conferences of refiners from Oklahoma, Kansas and North Texas are being held to discuss methods of complying with the order issued by Secretary Ickes allocating gasoline production and stocks and to formulate plans for stopping the practice adopted by some refiners of offering prices below those quoted in trade papers and recognized as official.

Refined Oil Market Barometer

Save in California, where the ending of a price war imparted new strength, the gasoline market generally lacked vigor though few changes in quotations were recorded. Natural gasolines, except in California, continued their descent to lower levels. Bunker C fuel oil jumped 10 cents in the Gulf Coast and eastern markets. Pennsylvania grade neutrals registered an advance of 1 cent a day until a total rise of 5 cents was recorded. The remainder of the list of refined products saw few changes.

Mid-Continent—Refinery gasoline soft, with minor price recessions. Natural gasoline weak and expected to go lower.

Atlantic Coast—Bunker fuel up 10 cents and neutrals strong. Most of the rest of the list firm.

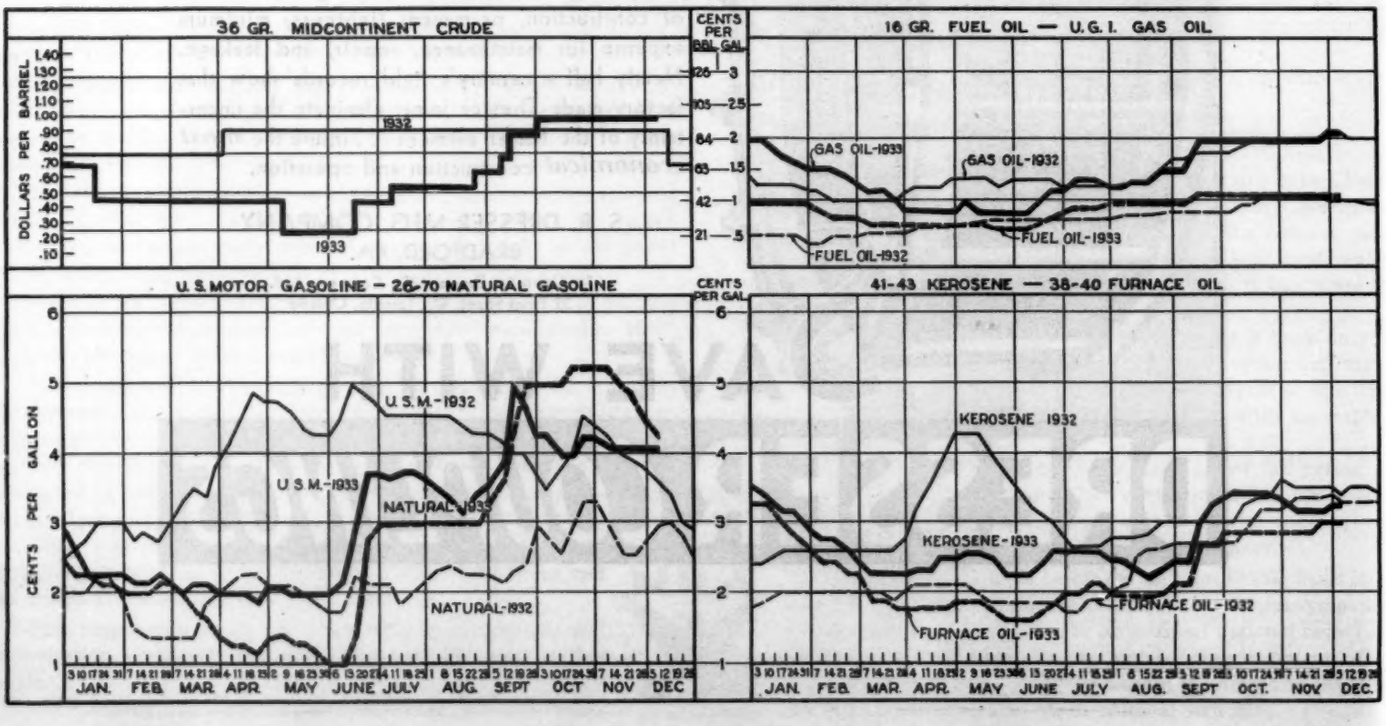
Chicago—Business picking up, prices firmer and market tone improved.

California—Sharp upturn in both refinery and natural gasoline. Fuel oil, gas oil and Diesel strong.

Gulf Coast—Gasoline steady, with prices firm, but movement limited. Kerosene scarce.

Pennsylvania—Neutrals exceptionally strong. Other prices generally steady.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Stronger Gasoline Future Is Seen in New York But Current Eastern Trading Continues Slow

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 4.—An advance of 10 cents per barrel in bunker fuel was the week's most important development in refinery markets for the East Coast area. The increase was made effective December 1 by the Standard Oil Co. of New Jersey at Atlantic Coast, Gulf and Panama Canal ports and also at ports covered by the West India Oil Co. in the West Indies. In the case of the Humble Oil & Refining Co., a Standard of New Jersey subsidiary, the advance was not effective until December 2. Under the new schedule the new price at New York harbor is $1.20 plus lighterage charge of 5 cents per barrel. The Gulf port price is $1.05.

Paraffin base neutral oils were the other product to show price strength during the week. All grades of paraffin neutrals have been showing strength since the middle of November and important price increases materialized during the week in both domestic and export markets. In the export end a 150, 3 color neutral was quoted the first of the week at 24½ cents in barrels f.a.s. New York and a 200, 3 color grade at 29½ cents. These prices are from 4 to 5 cents a barrel higher than the prevailing market a month ago. The demand is said to be partially seasonal, the consumption of these oils, particularly in low cold test grades, increasing due to their wider use in compounding winter grades of motor oils. The trend toward lower viscosity motor oils is said to be especially marked for the winter season just starting. This is partially due to the recommendations of the motor car manufacturers who are insisting on the use of low S.A.E. number oils for the cars that were sold over the past year. Stocks of the better grades of neutral oils are not large and many of the trade believe that prices will continue to advance over the next 60 days. The export demand has improved over the past month.

Among the other products no important price changes have developed. While there is a somewhat stronger market attitude regarding the future of gasolines, current trading in both domestic and export sales continued slow. There are complaints that prices are being shaded in tank car sales of U. S. Motor gasoline and in tank wagon and service station sales prices are below normal at several points. In the export end inquiries for two cargoes which were in the market last week are reported to have been let to either Russian or Rumanian sellers. It is understood that American sellers bid 5¾ cents at the Gulf Coast for 64-66, 375 endpoint material. The assumption is that the sellers who obtained the business bid one-eighth or one-fourth cent lower.

EASTERN MARKET UP

NEW YORK, Dec. 4.—Effective today the Standard Oil Co. of New Jersey advanced tank car prices on furnace oil distillates one-half cent per gallon. The new prices range from 4½ cents for the No. 4 industrial grade to 6 cents per gallon for No. 1 grade. The advance follows an increase in bunker C fuel oil prices last week to $1.20 per barrel. It is expected other sellers will meet the increase by the end of the week. At the same time the New Jersey Standard advanced tank wagon furnace oil prices one-half cent in its marketing territory which extends from New Jersey to South Carolina. These prices which are now on parity with those in New York City area range from 6½ cents for the No. 4 Industrial grade to 8½ cents for the No. 1 grade.

The gas oil, distillate and kerosene market is firm with buying improved, reflecting the arrival of colder weather. Some of the trade believe that the higher bunker fuel oil prices point to advances in gas oil and distillate. Others state that the supplies of these products are sufficient and they do not anticipate any price increases, at least until after the first of the year.

Bunker Fuels Scarce

The advance of 10 cents in bunker fuel quotations was not a surprise to those who are in close touch with this market. This market has been gradually tightening in this section ever since the early part of 1932. Previously there had been a steady decline in quotations from a high of $1.15 per barrel in the early part of 1930 to a low of 60 cents per barrel in the fall of 1931. In March of 1932 the price was advanced to 65 cents, and on May 10 was advanced to 75 cents, where it continued over the balance of the year except for a brief period when it was advanced to 85 cents between June 21 and September 12. On July 6 of this year the price was advanced to 85 cents; August 24, 95 cents; September 11, $1.10, and on December 1, $1.20. Based on the weekly quotations, the following are the average prices for Bunker C fuel oil at New York harbor exclusive of lighterage charge: First six months of 1933, $0.725 per barrel; 1932, $0.8346; 1931, $1.0019; 1929, $1.05. The present price is 5 cents per barrel above the high of the past five years.

As has been pointed out in these columns in recent weeks the statistical position of residual fuels in the East Coast territory has been strong for several months. In fact this situation is general in this country with the exception of California. Stocks have been decreased in the latter area over the past year but the refiners there still have sufficient stocks and current output so that at least two of the major operators have contracted for the delivery of large quantities of fuel oil to East Coast buyers. If it were not for the surplus on the West Coast part of which is being brought around to the East Coast through the Panama Canal, an acute shortage could easily develop in this section according to competent observers. Earlier in the year there was considerable fuel oil available at Gulf Coast refineries and terminals but the quantity of this material has decreased in recent months.

Stocks of residual fuel oil, most of which is the bunker grade at East Coast refineries on October 1 totaled 3,826,000 bbls., a decrease of approximately 1,000,000 bbls. when compared with the inventories on the same date in 1932. Production is less than a year ago with prospects of additional reductions when the plan of curtailing refinery operations to prevent accumulations of gasoline throughout the United States, becomes effective.

Fuel Oil Contracts

It is pointed out by those in touch with this market that the 10-cent per barrel advance in bunker fuel has no immediate significance to many buyers and sellers. There are many contracts between ship owners and refiners which provide for a maximum price of $1.10 per barrel. Most of these contracts were made a year or two ago and in many cases they extend through 1934. In fact cases are cited in which contracts were made and the buyer will continue to purchase through 1934 as low as 75 cents per barrel the maximum allowed under the agreement. These contracts were made when marine buying was dull and an unfavorable market situation prevailed, so that sellers were willing to give the buyers long-time contracts at low prices. This situation has changed in recent months and in new contracts, it is understood, that the sellers

(Continued on Page 38)

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

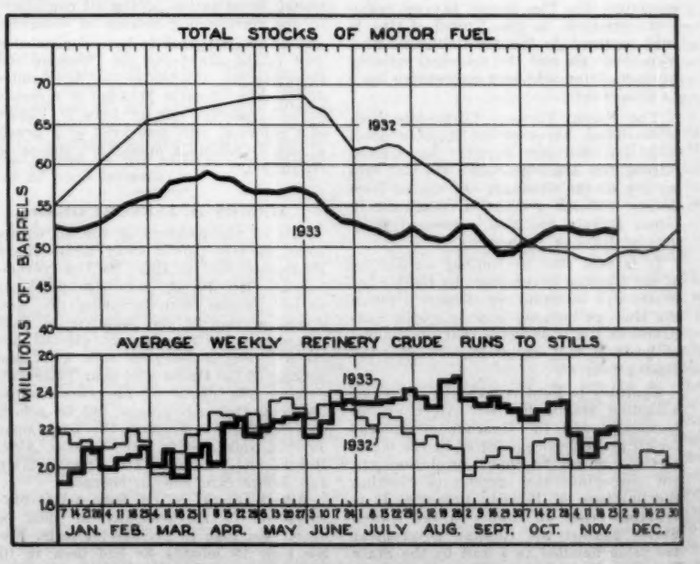
Week Ending December 2, 1933, Compared to Week Ago

	Week Ending Dec. 2, 1933				Week Ending Nov. 25, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	431,000	14,288,000	7,998,000	100.0	452,000	14,154,000	8,213,000
Appalachian ...	92.6	89,000	2,105,000	1,001,000	92.6	94,000	2,169,000	1,905,000
Ind., Ill., Ky. ..	97.3	295,000	7,094,000	4,677,000	97.3	302,000	7,075,000	6,106,000
Okla., Kans., Mo.	82.1	193,000	5,683,000	3,972,000	82.1	221,000	5,601,000	4,324,000
Inland Texas ...	60.2	76,000	1,315,000	1,765,000	60.2	92,000	1,307,000	1,755,000
Texas Gulf	98.1	430,000	4,595,000	6,560,000	98.1	433,000	5,009,000	7,219,000
Louisiana Gulf..	100.0	96,000	1,319,000	1,853,000	100.0	105,000	1,378,000	1,999,000
N. La. and Ark.	92.6	44,000	246,000	561,000	92.6	51,000	235,000	570,000
Rocky Mtn.	78.8	27,000	886,000	727,000	78.8	32,000	868,000	724,000
California	96.9	414,000	14,064,000	93,810,000	96.9	428,000	14,138,000	94,503,000
Total U. S. ..	92.4	2,095,000	51,595,000	122,924,000	92.4	2,210,000	51,934,000	126,318,000

Total motor fuel stocks, Bureau of Mines basis, 53,390,000 bbls.

Week Ending December 2, 1933, Compared to Year Ago

	Week Ending Dec. 2, 1933				Week Ending Dec. 3, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	431,000	14,288,000	7,998,000	99.1	465,000	11,721,000	9,237,000
Appalachian ...	92.6	89,000	2,105,000	1,001,000	95.0	79,000	1,785,000	758,000
Ind., Ill., Ky. ..	97.3	295,000	7,094,000	4,677,000	97.5	292,000	6,538,000	3,757,000
Okla., Kans., Mo.	82.1	193,000	5,683,000	3,972,000	84.9	181,000	4,691,000	2,790,000
Inland Texas ...	60.2	76,000	1,315,000	1,765,000	56.4	77,000	1,364,000	2,155,000
Texas Gulf	98.1	430,000	4,595,000	6,560,000	97.7	359,000	6,003,000	8,850,000
Louisiana Gulf..	100.0	96,000	1,319,000	1,853,000	97.3	72,000	1,320,000	3,138,000
N. La. and Ark.	92.6	44,000	246,000	561,000	88.5	44,000	266,000	498,000
Rocky Mtn.	78.8	27,000	886,000	727,000	90.8	27,000	1,081,000	441,000
California	96.9	414,000	14,064,000	93,810,000	94.6	410,000	14,951,000	100,344,000
Total U. S. ..	92.4	2,095,000	51,595,000	122,924,000	91.6	2,006,000	49,720,000	131,986,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table.

Late Fields

OKLAHOMA

Minnehoma Oil Co.'s No. 1 Schonwald, C W half SW NE Section 20-20-2w, Lucien Pool, Noble County, Oklahoma, produced 934 bbls. of oil in 12 hours from a stray sand at 5,227-30 feet and was drilling at 5,235 feet, 5 feet in dolomite.

MICHIGAN

MUSKEGON, Mich., Dec. 5.—A prospective new central Michigan field was opened today when Dailey Oil Corp.'s No. 1 Christensen Heirs, NW NW NE Section 10-12n-6w, Home Township, Montcalm County, 2 miles north of village of Edmore, came in for estimated flow of 200 bbls. from Upper Traverse limestone at about 2,800 feet deep. Daily flow of H. C. Nelson's No. 1 Ann A. Copenhaven, SE NE Section 36-15n-17w, Hart Township, Oceana County, was boosted from 50 to 500 bbls. with acid.

WEST TEXAS

FORT WORTH, Tex., Dec. 5.—Turner and others' No. 1-B Addis in Section 35, a half mile southern extension to the Addis area in Ector County, West Texas, struck an oil increase at 3,920 feet and is drilling at 3,927 feet, making 6 bbls. of oil per hour.

New Head of Amtorg and Equipment Buyer Coming

NEW YORK, Dec. 4.—G. V. Akerman, member of the board of Soyouznefteexport of the Russian oil industry, will arrive here this month and will become the active head of the petroleum products division of the Amtorg Trading Corp. He will succeed A. A. Santalov, vice president of the Amtorg corporation and general representative of Soyouznefteexport of the U.S.S.R., who has been in charge of the petroleum division in United States for the past five years. Mr. Santalov will return to Russia and after a leave of absence will enter active service with the oil industry in Russia.

Mr. Akerman is widely known in European oil circles. He has represented the Russian oil industry in negotiations involving the sale of Russian oil products in all parts of the world outside of North and South America. His appointment to a position in the United States is interpreted to mean enlarged activities on the part of the Amtorg in the sale of Russian petroleum products to American companies which have operations outside the United States. So far as known there is no expectation that the Russian products will be brought directly to the United States except for a limited quantity of specialty oils. The import tax on petroleum products in the United States is said to preclude the possibility of Russian crude oil and the principal refinery products being sold on a competitive basis in this country.

The Socony-Vacuum Corp. has been a consistent buyer of the Russian products for delivery outside the United States. The Anglo-American Oil Co., subsidiary of the Standard Oil Co. of New Jersey, through a cartel arrangement in Great Britain has also purchased products of Russian refineries.

It is said that the formal recognition of the Russian government by the United States will facilitate negotiations between the Russian industry and American companies and it is expected that the volume of business will be increased during the coming year.

Contrary to local reports the matter of adjusting claims between American oil companies and the Russian government for oil properties confiscated by the latter at the time of the Soviet revolution will not enter into the agreements covering the purchase of Russian products. It is explained that all claims in the United States against the Russian government are being handled as a unit by the State Department and no private agreements are possible. The claims of American oil companies which have been formally filed with the State Department are said to exceed $100,000,000 with the Standard Oil Co. of New Jersey and the Socony-Vacuum Corp., the largest claimants.

It is also stated that M. Barinoff, an official of the Russian oil industry, will arrive here this month for the purpose of entering into negotiations with manufacturers of oil field and refinery equipment. No announcement has been made as to how this business will be handled but it is understood to involve long credit arrangements on the part of the American manufacturers. Representatives of the technical division of the Russian oil operations have been in this country for several weeks investigating operating practices in this country and their recommendations will play a great part in awarding any contracts with the manufacturers.

Kansas Method of Allocating Production of 112,000 Bbls. Daily in December

The Kansas Corporation Commission, in allocating production of crude oil in December, in accord with the Secretary of the Interior's allotment of 112,000 bbls. per day for that State, classified the allowables.

The percentage of allowables shown in this chart does not apply to increases of production within a field, since the November potential.

Increased production in any field cannot increase the field outlet, but decreases the percentage of allowable per well under the ratable taking rules.

Quotas are necessarily set for all fields and cannot be increased for the December period of allocation, as any increase would cause overproduction of the Kansas allocation of 112,000 bbls. daily.

Overages and Shortages

In areas receiving the detailed report of the state oil umpire, the calculation will be made showing the status of overages and shortages and allowables.

In areas not covered by detailed monthly reports the lease potential, as taken in November, will be used by the purchasing companies, and their gaugers will advise producers of the allowables.

The net allowable to any lease for the month of December will be its calculated allowable less its overage or plus its shortage. The classification follows:

Well classification of fields (bbls.)	Number of wells	November potential (bbls.)	Per cent allowed	Allowed (bbls.)
1,000-1,200	.....	None	15.77	.....
800-1,000	66	6,078	16.50	9,913
600- 800	103	74,221	17.22	12,781
500- 600	.....	None	17.94	.....
400- 500	14	5,969	18.67	1,114
300- 400	6	1,814	21.55	391
200- 300	49	12,087	30.09	3,637
190- 200	.....	None	35.62	.....
180- 190	41	7,752	41.13	3,188
170- 180	8	1,399	42.08	589
160- 170	.....	None	43.11	.....
150- 160	.....	None	44.06	.....
140- 150	323	46,992	44.93	21,114
130- 140	28	3,883	46.22	1,702
120- 130	.....	None	46.95	.....
110- 120	9	1,061	47.70	506
100- 110	13	1,316	49.18	647
90- 100	3	282	51.32	145
80- 90	.....	None	53.45	.....
70- 80	17	1,285	55.73	716
60- 70	14	902	58.01	523
50- 60	135	7,427	59.82	4.443
45- 50	91	4,275	62.17	2,658
40- 45	65	2,753	63.21	1,740
35- 40	.....	None	62.07	.....
30- 35	.....	None	65.04	.....
25- 30	56	1,709	66.51	1,137
20- 25	190	4,276	67.25	2,876
15- 20	151	2,661	68.29	1,817
10- 15	146	1,966	69.41	1,365
5- 10	2,496	20,777	70.88	14,727
0- 5	14,767	24,271	100.00	24,271
	18,791	288,957		112,000

McADOO'S THREAT

WASHINGTON, D. C., Dec. 4.—There is much talk about a statement made in Los Angeles by Senator McAdoo in which he said he proposed to have a congressional investigation of the oil companies in the forthcoming session of Congress, and is also reported to have demanded a copy of the minutes of the Planning and Co-ordination Committee in furtherance of his plan. Senator McAdoo is reported to be a political ally of John B. Elliott of California, who was head of a group of small California operators opposed to regulation.

ALBERT H. JARECKI DEAD

One of the pioneers in the oil equipment industry passed away when Albert H. Jarecki died in Erie, Pa., on November 24. Mr. Jarecki was vice president of the Jarecki Manufacturing Co., and a son of one of the founders of that organization. The company entered the oil well supply business soon after the drilling of the Drake well near Titusville.

After the death of the two Jarecki brothers, the management fell to Albert Jarecki and his brother, the late Oscar Jarecki, and later to three cousins, Alex, Robert and the late Fred Jarecki. Alex and Robert are now in charge.

Albert Jarecki retired from active participation in the company in 1908 to devote his time to private interests. For the past 18 months he had been in ill health. Oscar Jarecki died in Atlantic City in 1927.

Union May Have Discovered New Field in Kern County

By L. P. STOCKMAN

LOS ANGELES, Calif., Dec. 3.—The Union Oil Co. is believed to have discovered a new oil field in the Union Avenue district, a few miles south of Bakersfield in Kern County, although the existence of an independent accumulation may not be definitely determined for several months as the proximity of Union Avenue to the Mountain View Field may be of more significance than is apparent. The Union Oil Co.'s test which has cored 35 feet of exceptionally well saturated oil sand is located 12,000 feet northwest of the Mohawk Oil Co.'s No. 1 Clendennen, a recent completion doing 1,700 bbls. per day from 5,600 feet and approximately 21,000 feet northwest of the Hogan Petroleum Co.'s discovery well in the Mountain View Field.

The absence of any topographic indication of structure at either Union Avenue or Mountain View precludes satisfactory geological reconnaissance although the Bear Mountain Sheer zone has been definitely mapped as extending southeastward from the Fruitvale to the Mountain View Field and terminating in the Comanche Point area in the extreme southern end of the San Joaquin Basin. The Union picked up the top of the pay in the Santa Margarita at 5,611 feet and after logging 35 feet of oil sand concluded drilling operations preparatory to landing a water string.

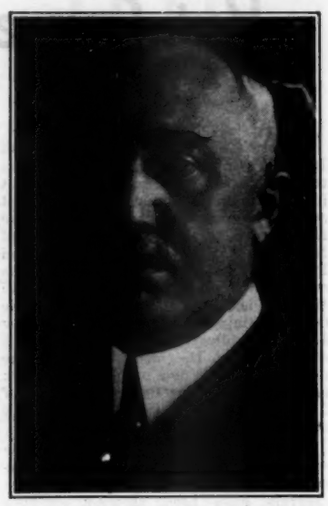
Fleming and Bunje Succeed The Late Richard J. Berry

Walter W. Fleming, vice president and general manager of the Mid-Kansas Oil & Gas Co., has been elected president to succeed the late Richard J. Berry. Mr. Fleming will continue as president of the Marathon Oil Co. James L. Cook has been advanced to the vice presidency of the Mid-Kansas company and also made a director.

Charles J. Bunje, Jr., vice president of the Illinois Pipe Line Co., succeeds the late Mr. Berry as president of that company, and J. C. Donnell succeeds Mr. Bunje as vice president, and was also made a director.

Richard B. Mellon Dies at His Pittsburgh Home

PITTSBURGH, Pa., Dec. 2.—Richard Beatty Mellon, 75, president of the Mellon National Bank and younger brother



RICHARD B. MELLON

of Andrew W. Mellon, died Friday. He had been in failing health for a month.

Born in Pittsburgh, March 19, 1858, his first business venture was in the lumber industry. Later he entered the firm of T. Mellon & Sons from which grew the present Mellon National Bank.

Sensing the importance of research in industries, Richard and Andrew Mellon founded the Mellon Institute of Industrial Research. Their educational activities extended also to the University of Pittsburgh.

When Andrew W. Mellon became Secretary of the Treasury, Richard took over active control of the Mellon interests.

He was closely identified as an executive with many of America's foremost industries, including the Aluminum Co. of America, the Standard Steel Car Co., the Pittsburgh Plate Glass Co., the Westinghouse Electric & Manufacturing Co., the Gulf Oil Corp., and the Pittsburgh Coal Co.

Hughes Tool Acts as Host to Big Crowd at Barbecue

HOUSTON, Tex., Dec. 2.—About 1,000 persons interested in the oil business were entertained last Wednesday afternoon and evening by the Hughes Tool Co., at its manufacturing plant, which for years has been referred to as one of the show places of Houston. While most of the guests were from different parts of the Gulf Coast, many came from distant points, including California.

A beef, pork and chicken barbecue was served at noon, and other features were added to make an attractive program which extended into the evening. Active in looking after the guests were Col. R. C. Kuldell, president of the company; S. P. Brown, vice president and sales manager; H. W. Fletcher, chief engineer; C. S. Johnson, secretary-treasurer, and M. E. Boehm, general plant superintendent.

HERBERT F. MILLER A DIRECTOR

Herbert F. Miller has been elected a director of the Carter Oil Co., producing subsidiary of the Standard Oil Co. of New Jersey in Kansas and Oklahoma. Mr. Miller has been with the Standard of New Jersey and the parent company for 31 years, 13 years of which has been spent in Tulsa. He has filled numerous positions of responsibility and his election to the Carter's directorate is another recognition of his ability and fidelity.

NEWS FOR PETROLEUM REFINERS

State of Texas Divided Into Four Refining Areas

FORT WORTH, Tex., Dec. 4.—Division of Texas into four districts for the purpose of allocating gasoline stock quotas to refineries was reached at a meeting of the district No. 4 code committee at a session here Friday.

Between 35 and 40 refiners from the four states in the district attended the all-day session.

Divisions of the state will be West Texas and North Texas, East Texas, Gulf Coast and the Rio Grande district. Discussion was held as to how the various stock quotas set in Secretary Ickes' order of November 22, limiting first of the year gasoline storage to 51,000,000 bbls., will be accomplished. While definite decision was not reached, it was indicated from the trend of discussion that matters pertaining to gasoline storage will be handled through much the same channels as other questions relating to the oil code.

An appeal was made to refiners attending the meeting to urge immediate compilation and filing of answers to questionnaires circulated shortly after Secretary Ickes' order was issued.

Harry C. Wiess, vice president of the Humble Oil & Refining Co. and chairman of the Region No. 4 refining committee, presided at the meeting.

Howard Bennette, member of the oil code Planning and Co-ordination Committee and chairman of its subcommittee on refining, explained the purpose of the order limiting gasoline stocks and answered questions of the various refiners in attendance on details.

Dr. E. R. Lederer, Fort Worth, vice president of the Texas Pacific Coal & Oil Co., chairman of the Texas refining committee; S. E. Stretton, El Paso, subchairman of the state committee; T. A. Helling, El Dorado Refining Co., El Dorado, Kans., chairman of the Kansas refining committee, and W. E. Moody, Deep Rock Oil Corp., Cushing, Okla., chairman of the Oklahoma committee, were among those present.

BALLARD SALES MANAGER

A. M. Ballard of Tulsa, one of the best known oil marketers in the Mid-Continent, has been named sales manager for the Dickey Refining Co., with offices at Wichita, Kans. Early in his sales work he represented the Sun Oil Co. as district manager and remained with that company for many years. In 1930 he assumed similar duties for the H. F. Wilcox Oil & Gas Co. in Tulsa. In the past year he has operated independently as a refined oil broker.

The Dickey Refining Co. operates a 5,000-bbl. skimming and cracking plant located at McPherson, Kans., and sells much of its output to jobbers throughout western Kansas, Nebraska, Missouri and other Middle West states.

OLD DUTCH BUYS BULK PLANT

The Old Dutch Refining Co., of Muskegon, has purchased an interest in the bulk storage plant of the Patterson Oil Co., of Detroit, for distribution of gasoline and other petroleum products through a chain of 50 to 100 independent stations.

Stufflebeam Stogis, accountant at the Muskegon plant for the past two years, has been transferred to Detroit to represent the refining company's interest in the new outlet for an initial order of 250,000 gallons.

Gasoline will be moved from Muskegon to Detroit, about 200 miles, by railroad tank car or in large tank truck units with a capacity of about 8,500 gallons each.

Shell Petroleum Corporation Completes Large Cracking and Reforming Unit

Shell Petroleum Corp. recently placed in service a Dubbs reforming unit at the East Chicago, Ind., refinery. This unit includes a large Foster Wheeler tubular heater of special design to meet conditions of service encountered in reforming. This unit, according to "Heat Engineering," the Foster Wheeler house organ, has processed continuously over a long period of time an average of 9,300 bbls. per day of straightrun gasoline. The unit is also designed to handle 5,200 bbls. of straightrun naphtha per day.

Oil is charged at a high pressure and a temperature of 250 to 300 degrees. It is heated to a high temperature, depending upon the nature of the charge and the finished product desired.

The heater is made up of three distinct sections and contains more than 200 tubes, each of which is 40 feet in length. The three sections are the convection section for preliminary heating of the charge, the cracking section surrounding a large furnace and the soaking section surrounding a small furnace. The operation of the heater involves the release of more than 100,000,000 B.t.u. per hour.

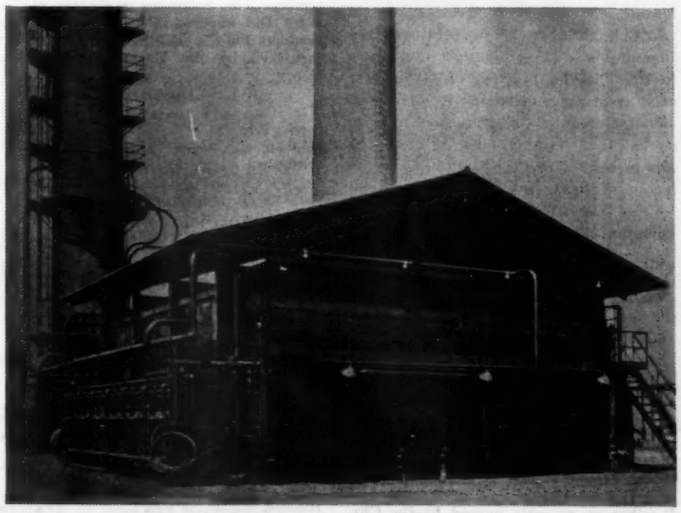
Oil and gas are used as fuel, being fired by 27 combination burners. Twelve burners are located in the side wall of the soaking furnace and 15 located in the side wall of the cracking furnace. The use of two furnaces makes it possible to obtain an accurate control of the heat absorption in the cracking and soaking sections and in this way obtain a positive control of the finished product.

The raw charge is pumped into the bottom of the convection tube bank after having been preheated in heat exchangers. This charge flows through successive rows of convection heat absorbing tubes of extended surface construction to provide high efficiency and maximum rates of heat absorption per lineal foot of tube. The oil heating elements in the convection section have cast iron rings of varying diameters shrunk on them, the largest rings being in the path of the coolest gases.

From the convection section the oil passes through the cracking coil. The charge enters the single row of radiant heat absorbing tubes in the floor of the cracking coil furnace, flowing through the tubes successively. From the floor tubes the charge goes to the single row of roof tubes in the same furnace.

From the cracking coil the charge flows through the soaking coil which consists of two rows of radiant heat absorbing tubes in the floor and two rows of tubes in the roof of the small furnace. The charge flows first through the roof tubes and then through the floor tubes. From the soaking coil the charge is delivered to the fractionating column from which the finished product is removed.

Products of combustion from each furnace unite at the top of the convection tube bank, pass through the convection section of the heater downward to a flue at the bottom and thence to a radial brick stack placed behind the heater. The stack is 10 feet 6 inches in diameter and 130 feet high. Due to the relatively lower temperature of oil entering the convection section the flue gas temperatures are likewise low and air heaters are not needed to provide a high fuel efficiency.



New reforming unit at the East Chicago plant of the Shell Petroleum Corporation as seen from front of the tubular oil heater. The twelve burners firing the soaking furnace may be seen at the left. At the opposite end of the heater are fifteen combination oil and gas burners which fire the larger cracking furnace. The location of the convection section of the heater for preliminary heating, is indicated by the middle panel in the foreground. Oil heating tubes are placed in the roof of the entire unit and in the floor of each furnace

NEW A.S.T.M. ADDRESS

The American Society for Testing Materials, so well known to the petroleum industry, especially for the work of Committee D-2, which develops the standard methods for the inspection of petroleum products, has been located for many years on Spruce Street, Philadelphia, will move to the Atlantic Building in Philadelphia, January 1, 1934.

Increased Prices of Fuel Oil Hit Steamship Lines

NEW YORK, Dec. 4. — Steamship companies have been notified that the price of fuel oil, used in the propulsion of most of the important merchant ships, has been increased 10 cents a barrel. The price will be $1.20 a barrel henceforth, according to the notices sent out by the oil companies.

The increased cost of operation brought about by the change of price will be especially heavy on the large ships, shipping men said. Citing an extreme example in the White Star liner Majestic, which consumes 900 tons daily, it is possible that the expense of a single round trip may be increased by $7,200.

A ton of fuel oil equals 6⅔ bbls. The Majestic thus would require 6,000 bbls. per day, an increased expense of $600 a day, or nearly $3,600 for a single transatlantic crossing. On this basis the cost of fueling the Majestic would be about $43,200 for a one-way crossing.

The cost of fuel oil has been increased to the ship lines 50 per cent in the last year. The price quoted last December was 60 cents a barrel, and it has been increased gradually to its present price of $1.20.

P. A. S. Franklin, president of the Roosevelt International Mercantile Marine Co., said that his company would be severely hit. He added that nothing could be done, however, but accept the quoted price. Operators of winter cruises commented that their anticipated margins of profit would be greatly lowered, as they had already published rates based earlier on fuel prices.

LAKIN NEW SHELL MANAGER

ST. LOUIS, Mo., Dec. 2.—P. E. Lakin has been appointed sales manager of Shell Petroleum Corp., effective December 1, it was announced today by L. van Eeghen, vice president in charge of marketing.

"This appointment is a result of our increasing volume of business and our enlarged sales force under the NRA, and is a reflection of our policy of closer control of all sales work," Mr. van Eeghen said.

Mr. Lakin entered the service of the Shell Oil Co. in California in a minor capacity 17 years ago, and was rapidly advanced to positions of increasing responsibility in Shell operations on the West Coast and in Canada. Before joining Shell Petroleum Corp., he was president of the Guardian Oil Co. of San Francisco.

In his new duties Mr. Lakin will be responsible for all sales activities of Shell Petroleum Corp., and will represent the vice president in charge of marketing in all matters whenever Mr. van Eeghen is absent from St. Louis.

NEW PEACE RIVER REFINERY

PEACE RIVER, Alberta, Dec. 2.—H. Elliott, who has been in charge of a small refining plant in the Wainwright Field, is planning to construct and operate a similar plant at Peace River. Refinery equipment has been shipped, and the plant will be erected at the north end of the town, construction being in charge of W. L. Taylor. The plant will operate on heavy crude from the Wainwright Field, brought in by tank cars, and will feature fuel oil for tractors and heaving. Mr. Elliott, who has had drilling experience, is also planning to bring in an outfit and drill for oil in the Peace River area, where fairly good shows of asphaltic crude were encountered between 15 and 18 years ago.

NEWS FOR SALES DEPARTMENTS

Jobbers of 10 States Join New National Association

Ten state associations of oil jobbers, now affiliated with the National Oil Marketers Association, will send delegates to the meeting of the National Oil Marketers Association to be held at the Stevens Hotel, Chicago, on December 12. Many dealer associations desirous of becoming affiliated will likewise send delegates.

In addition numerous jobbers, dealers, burning oil distributors, carload marketers, brokers and wholesale lubricating oil distributors will be in attendance.

Several months' operation of the code of fair competition for the petroleum industry as the same affects the oil marketer will be reviewed. B. L. Majewski, a member of the Planning and Co-ordination Committee, will address the meeting. Election of officers and adoption of by-laws will also take place.

The meeting comes at a very important time in as much as the oil marketer is forced to carry the burden of the expense of shorter hours and increased pay but unlike the refiner and producer, has received none of the benefits contemplated by the National Recovery Act. The following program has been outlined:

Program

9:30 a.m.

Registration.

10 a.m.

Meeting called to order.
Election of a temporary chairman.
Address: "The Petroleum Code," by B. L. Majewski, member, Planning and Co-ordination Committee.
Discussions of the petroleum code.

11 a.m.

"The Plans and Purposes of the National Oil Marketers Association," by Paul E. Hadlick.
Adjournment for lunch.

2 p.m.

Adoption of by-laws.
Election of directors.
Informal remarks from the floor.

6 p.m.

Meeting of board of directors.

Removal of Half-Cent Tax Gratifying to Association

WASHINGTON, D. C., Dec. 4.—Removal January 1, 1934, of the half-cent emergency tax on gasoline is characterized by the American Automobile Association as the possible forerunner of "relief from other of the series of special motor levies collected by the Federal Government."

Thomas P. Henry, of Detroit, Mich., president of the association, said in a statement an "aggressive effort" will be made during the next session of Congress to have the remaining taxes removed. He explained that he referred to the taxes on new vehicles, parts and accessories, tires and tubes, lubricating oil and the 1-cent gasoline tax.

Mr. Henry said lifting of the half-cent gasoline tax imposed last June to help finance the $3,300,000,000 public works program will save motorists $70,000,000 a year.

COSDEN SALES REPRESENTATIVE

Cosden Oil Corp., Fort Worth, Tex., has appointed Petroleum Exchange Corp., Chicago, its exclusive sales representative for all its products. Cosden reports it has completely rebuilt its Big Spring, Tex., refinery and at that plant will shortly start producing a new gasoline of high quality for the trade.

Ethyl Gasoline Corporation Eliminates Royalty Charge and Cuts Fluid Cost

NEW YORK, Dec. 5.—The Ethyl Gasoline Corp. today announced there would be no gallonage charge on Ethyl Gasoline during 1934 and also announced a reduction in the cost of tetraethyl lead to licensees in sales made on and after January 1, 1934. The announcement of Ethyl Gasoline Corp. was as follows: "On mixtures of Ethyl Gasoline made on and after next January 1 and during the year 1934 there will be no gallonage charge. It may be necessary to reinstate a gallonage charge after next year but we will await developments until next October before taking any action in that direction for the year 1935. The charge for lead shipped by us on and after January 1 and during 1934 for use in regular and Ethyl Gasolines will be .33 cent instead of .35 cent. The foregoing applies to lead for use in automobiles and for aviation gasoline."

This announcement was sent to all licensees in the United States and Canada.

At present the cost of tetraethyl lead for use in what is known as the "Q" brand or regular grade gasoline is 35 cent per cubic centimeter effective January 1. This will be reduced to .33 cent. In the case of the premium grade of Ethyl Gasoline in the United States at present there is a royalty charge of 4 cents per gallon and in Canada .46 cent per gallon. After January 1 these gallonage charges will be dropped.

Ask to Stop Commissions to Burner Manufacturers

CHICAGO, Dec. 4.—A group of 27 leading distributors of heating oils in the Chicago district has petitioned the Planning and Co-ordination Committee to prohibit the practice of oil companies' granting commissions to oil burner manufacturers, distributors and dealers on sales of burning oils. A resolution was forwarded to the committee at Washington the past week, signed by members of the Chicago Burning Oil Distributors Association and by nonmembers. Belief here is that the committee will take favorable action on it soon for the Chicago district and might even outlaw the practice generally. The committee was asked to declare the practice unfair competition under Article 5, Section 1, of the oil code. In the past few years, granting of commissions in these cases has grown until it has been quite common and has made itself felt to the detriment of the heating oil business, according to F. J. Moore, president of the Chicago association.

Mr. Moore states that prospects for a national organization of heating oil distributors, recently pushed by the Chicago association, have dimmed lately. Many objectives sought have already been accomplished in the improvements brought about by the oil code, it is stated.

MICHIGAN TAXES LOWER

Gasoline and weight tax collections for the first nine and 10 months of 1933 show a decline of about $2,500,000 compared with the same corresponding period in 1932, it was announced recently by the department of state in Lansing.

Gasoline taxes received to October 1, 1933, amounted to $15,122,867, or $1,187,512 less than in 1932, while weight taxes aggregated $17,532,417 to November 1, 1933, or $1,149,492 less than during the first 10 months of 1932.

Department records show that on November 1, 1933, there were 58,416 fewer motor vehicles licensed in Michigan than a year ago.

Secretary of State Frank D. Fitzgerald has recommended that the legislature reduce the license plate cost to $3, $6 and $9 for light, middle and heavy weight cars to encourage more motorists to operate their cars on the theory that any loss in weight taxes will be more than offset by the gain in gasoline taxes also benefiting the oil industry.

IMPORTS AND EXPORTS

Fuel oil was the principal refinery product imported and gasiline was the principal product exported during September. The following statistics of imports and exports of petroleum and its products for the month of September are furnished by the Department of Commerce:

IMPORTS

(Barrels)

Crude	2,969,103
Fuel oil, incl. topped petroleum	818,026
Unfinished distillates (n.e.s)	0
Gas oil	287
Paraffin oil, not lubricating	0
Liquid derivatives of petroleum (n.e.s.)	539
Gasoline and other motor fuel	1,462
Finished light products (n.e.s.)	1
Naphtha, not motor fuel	0
Illuminating oil (kerosene)	760
Lubricating oils, inc. paraffin oil	619

(Pounds)

Paraffin and paraffin wax	5,475,919

EXPORTS

(Barrels)

Crude	3,181,730
Natural gasoline	41,842
Gasoline, naphtha and other finished light products, in bulk	1,724,058
Gasoline, naphtha, and other finished light products, in containers	77,487
Illuminating oil, in bulk	643,898
Illuminating oil, in containers	82,196
Gas oil and distillate fuel oil	630,331
Residual fuel oil	518,567
Lubricating oil, red and pale	574,653
Lubricating oil, black	59,873
Lubricating oil, cylinder	202,313

(Gallons)

Mineral spirits	113,995
Insulating or transformer oils	292,537
Light lubricating oils in small packages	13,825

(Pounds)

Lubricating greases	6,241,781
Paraffin wax, unrefined	9,675,274
Paraffin wax, refined	12,415,441

(Tons)

Petroleum asphalt	19,278
Petroleum coke	15,071

ASKING FOR LOWER OIL RATES

WASHINGTON, D. C., Dec. 4.—A group of Colorado oil dealers, headed by A. N. Christenson, Limon, Colo., has asked the Interstate Commerce Commission to fix lower rates for shipments of low-grade oil and other petroleum products from refining and shipping points in Kansas and Oklahoma to destinations in Colorado. The complainants said the present rates charged by the Atchison, Topeka & Santa Fe and other railroads were preferential to dealers in other states.

Pennsylvania Neutral Oils Score Spectacular Advance

OIL CITY, Pa., Dec. 4.—Advancing at the rate of nearly a cent a day, Pennsylvania Grade neutrals today had registered a total gain of 5 cents a gallon throughout the list, and were showing every indication of firmness at the new high levels. The zero pour test 150. No. 3 material had moved up from 16½ cents to 21½ cents and 21¾ cents, with the other pour tests advancing proportionately. The zero 180, No. 3 color, of 25 pour test, had moved up from 17¼ cents to a range of 22 cents to 22¼ cents. In the 200 viscosity materials the zero pour test advanced from 22 cents to a range of 26¾ cents to 27 cents, with other pour tests up similarly.

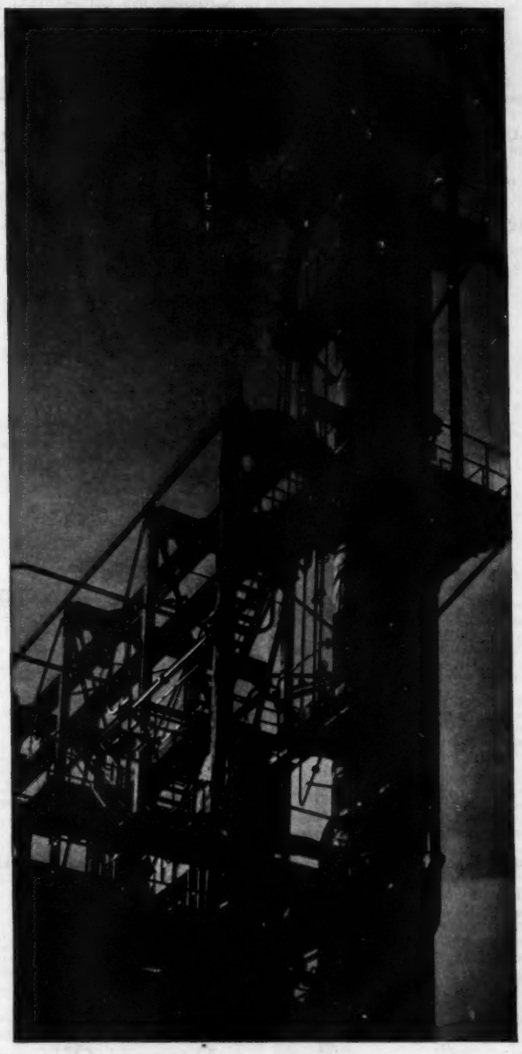
While other refined products were unchanged pricewise, refiners predicted advances before the close of the week. The steam refined and bright stock markets, which are not supported by the seasonal factor, are nevertheless slated for advances due to the clearing up of goods of refiners who needed to liquidate stocks for cash. It is estimated that there are only 5,000,000 gallons of bright stock distributed among 33 refiners in the district, and this consideration alone should be reflected in higher prices.

Tax Regulations Affecting Oil Products Are Amended

WASHINGTON, D. C., Dec. 4.—The regulations under which the Federal tax on gasoline is imposed have been amended to provide that "the tax shall not attach to any sale of benzol made by the importer thereof, or by a producer of gasoline, if it is sold by him for use (1) otherwise than as a fuel for the propulsion of motor vehicles, motor boats, or airplanes, and (2) otherwise than as a material in the manufacture or production of such fuel. In order to establish the exemption the importer or producer must obtain from the purchaser, prior to or at the time of sale, a certificate to the effect that the benzol will be used by such purchaser for a purpose other than as fuel for the propulsion of motor vehicles, motor boats, or airplanes, and other than in the manufacture or production of such fuel."

The regulations governing the tax on lubricating oils has been amended to read as follows: "On and after July 1, 1933, no tax shall be imposed upon lubricating oils sold by a manufacturer or producer of such oils to another manufacturer or producer of lubricating oils for resale by him, provided the manufacturer making the sale, prior to or at the time of sale, obtains from the purchaser a certificate showing that the oils are purchased by him for resale. For the purpose of this tax the vendee shall be considered the manufacturer or producer of such lubricating oils. On and after November 1, 1933, no lubricating oil shall be sold tax-free to another manufacturer or producer for resale unless the purchaser has registered with the proper collector of internal revenue as a manufacturer or producer of lubricating oils, and has obtained a registration certificate on Form 637 bearing his registration number, as provided in Article 7, as amended, of these regulations, and unless the exemption certificate required by the foregoing sentence bears the purchaser's registration number."

A man casts his Shadow Here



THIS is one of Gulf's stills. It plays an important part in the making of industrial lubrication products. Note, please, that there is no sign of a human being in the picture.

Yet a man casts his shadow here—invisible though it may be to the eye.

He is The Gulf Man—the man who has pumped the best available crude oil out of the ground—who has made possible its careful transportation by pipe-line or tanker—who refines the crude into the many products needed by industry for safe, economical lubrication—who, because he has been carefully trained in Gulf's special school, will be able to recommend to industry where and how these lubricants should be used for most efficient lubrication.

It is this composite Gulf Man who has influenced some of the world's largest mills—in steel, in lumber, in cork, in glass, in aluminum, in brick, in textiles—to depend so thoroughly upon Gulf industrial lubrication.

Small wonder, then, that the shadow cast upon this Gulf still is so significant!

GULF REFINING COMPANY

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
*U. S. Motor grades:				
Third grade	.04⅛	.04¼	.04⅛	.04⅜
Regular	.04¾	.05	.04⅞	.05⅛
Premium	.05⅜	.05⅝	.05½	.05¾
60-62 400 grades:				
Third grade	.04¼	.04⅜	.04¼	.04½
Regular	.05	.05½	.05	.05½
Premium	.05⅝	.05¾	.05⅝	.05¾
64-66 390	.04⅝	.05	.04⅝	.05
64-66 375	.04⅞	.05⅛	.04⅞	.05⅛
68-70 350	.05⅛	.05¼	.05⅛	.05¼
NORTH TEXAS—				
U. S. Motor grades:				
Third grade	.04	.04⅛	.04	.04⅛
Regular	.04½	.04⅞	.04½	.04⅞
Premium	.05¼	.05½	.05¼	.05½
60-62 400	.04¼		.04¼	
64-66 390	.04¾		.04¾	
64-66 375	.05		.05	
64-66 360	.05⅛	.05¼	.05⅛	.05¼
†NORTH LOUISIANA—				
U. S. Motor grades:				
Third grade	.04¾		.04¾	
Regular	.05½		.05½	
Premium	.06		.06	
60-62 400	.04½		.04½	
†ARKANSAS—				
U. S. Motor grades:				
Third grade	.04¾		.04¾	
Regular	.05⅝		.05⅝	
Premium	.06		.06	
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Third grade	.04⅛	.04⅜	.04⅛	.04¼
Regular	.04⅞	.05⅛	.04⅞	.05
Premium	.05¼	.05½	.05¼	.05½
60-62 400	.04¼	.04⅜	.04¼	.04⅜
64-66 375	.05	.05¼	.05	.05¼
68-70 360	.05¼	.05½	.05¼	.05½
Aviation fighting grade	.05⅝	.06	.05⅝	.05⅞

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number, premium 65 and above octane number; third grade, 59 and below octane number. Octane ratings determined by C.F.R. Motor Method.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
58-62 U. S. Motor:				
Below 60 octane	.05½		.05½	
60-64.9 octane	.06⅝		.06⅝	
65-65.9 octane	.07		.07	
70 octane and higher	.07⅜		.07⅜	
64-66 375	.06	.06¼	.06	.06¼
68-70 350	.06½	.06¾	.06½	.06¾
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.05¾	.07¼	.04¾	.06½
58-60 400	.06½	.08	.05½	.07
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¼		.06¼	
Philadelphia	.06¼		.06¼	
Boston	.0640	.06½	.0640	.06½
Baltimore	.06	.06¼	.06	.06¼
Charleston, S. C.	.06¼		.06¼	
U. S. Motor, 65 and above:				
New York (Bayonne)	.06½		.06½	
Philadelphia	.06½		.06½	
Boston	.0670		.0670	
Baltimore, Md.	.06¼	.06½	.06¼	.06½
Charleston, S. C.	.06½		.06½	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05¾	.06	.05¾	.06
U. S. Motor, below 65 octane number	.05	.05¼	.05	.05¼

Naphthas

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
50-52 450 (blending)	.04⅛	.04¼	.04⅛	.04¼
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05⅝	.05½	.05⅜	.05⅝
†ARKANSAS—				
48-50 (blending)	.04½	.04¾	.04½	.04¾
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04½	.05	.04¾	.05
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.07	.07¼	.07	.07⅜
Lacquer diluent, 180 i.b.p.-250 e.p.	.08	.08¼	.08	.08¼
Lacquer diluent, 140 i.b.p.-200 e.p.	.09	.09¼	.09	.09¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.07¼	.07½	.07⅛	.07½
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06⅜	.06¼	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p. over 83° flash	.06	.06¼	.06	.06¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06⅜	.06⅝	.06⅜	.06⅝
Petroleum spirits	.05⅜	.06⅜	.05⅝	.05⅝

Natural Gasolines

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
Grade 18-55	.05½	.05¾	.05¾	.06
Grade 26-70	.04¼	.04½	.04½	.04¾
Low vapor pressure grades:				
15 lb. v.p. (max.)	.05⅝	.06¼	.06⅛	.06½
11 lb. v.p. (max.)	.05¾		.06	
NORTH TEXAS—				
Grade 18-55	.05¼	.05⅜	.05½	.05⅝
Grade 26-70	.04¼	.04½	.04½	.04⅝
Low vapor pressure grades:				
15 lb. v.p. (max.)	.05½	.05¾	.05¾	.06
11 lb. v.p. (max.)	.05¾		.06	
NORTH LOUISIANA—				
Grade 26-70	.04⅝		*.04¾	
CALIFORNIA—				
75-85 375	.05	.06	.04½	.05¼

*Corrected price.

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
41-43	.03¼	.03½	.03¼	.03½
42-44	.03½	.03⅝	.03½	.03⅝
NORTH TEXAS—				
40-41	.03⅛	.03¼	.03⅛	.03¼
41-43	.03¼	.03⅜	.03¼	.03⅜
†NORTH LOUISIANA—				
41-43	.03¾		.03¾	
42-44	.04		.04	
†ARKANSAS—				
41-43	.03¾		.03¾	
PENNSYLVANIA (inland refineries)—				
45	.04¾		.04¾	
46	.05		.05	
47	.05¼		.05¼	
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03⅜	.03¼	.03½
42-44	.03⅜	.03½	.03⅜	.03⅝
*CALIFORNIA—				
38-40 high burning test	.04¼	.04¾	.04¼	.04¾
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43 water white	.04½	.04¾	.04½	.04¾

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
32-36 straw	.03	.03⅛	.03	.03⅛
36-38 straw	.02⅞	.03	.02⅞	.03
38-40 straw	.03	.03⅛	.03	.03⅛
39-41 prime	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—				
38-40 straw	.02⅝	.02¾	.02⅝	.02¾
†NORTH LOUISIANA—				
36-40	.03		.03	
†ARKANSAS—				
32-36	.03		.03	
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.03	.03⅛	.03	.03⅛
38-40 straw	.03	.03¼	.03	.03⅛
38-40 prime white	.03⅛	.03⅜	.03⅛	.03¼
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.04⅜	.04½	.04⅜	.04½
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05½	.06	.05½	
32-36 (No. 2 grade)	.04½	.05	.04½	
21 industrial (No. 4 grade)	.04	.04½	.04	

Above prices are for distillate oils of zero cold test under 190° flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
32-36 gas oil cracking stock	.01⅞	.02⅛	.01⅞	.02⅛
U.G.I. gas oil	.02½		.02½	
32-36, zero to 15 gas oil	.02¾	.03	.02¾	.03
28-30, No. 3 burner oil	1.05	1.10	1.05	1.10
28-30, zero to 10 fuel oil	9.5	1.00	.95	1.00
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.62½	.65	.62½	.65
20-22 fuel oil	.55	.60	.55	.60
Below 16 fuel oil	.50	.55	.50	.55
NORTH TEXAS—				
32-36 gas oil, industrial	.02		.02	
22-26 fuel oil	.57½	.62½	.57½	.62½
Below 20 fuel oil	.47½	.50	.47½	.50
†NORTH LOUISIANA—				
32-36 gas oil, zero	.03		.03	
14-16 fuel oil	.65	.70	.55	.60
†ARKANSAS—				
30-32 gas oil, zero	.02¾		.02¾	
32-36 furnace oil	.03		.03	
14-16 fuel oil	.65	.70	.50	
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
28-30 (zero) fuel oil	.95	1.02½	.92½	1.02½
26-28 (zero) fuel oil	.80	.82½	.77½	.82½
22-26 (zero) fuel oil	.67½	.72½	.67½	.70
18-22 (zero) fuel oil	.60	.65	.60	.65
Below 18 fuel oil	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.04⅛	.04¼	.04⅛	
CALIFORNIA—				
30-34 gas oil per bbl.	.95	1.05	.90	1.00
27 plus Diesel	.95	1.05	.90	1.00
15-19 bunker (at tidewater)	.55	.65	.55	.65
15-19 (cargo lots)	.55	.65	.55	.65
15-19 (tank cars)	.45	.65	.45	.65
GULF COAST—				
28-30 gas oil	.03¾		.03¾	
28-30 Diesel	1.80		1.80	
Bunker C (bulk cargoes)	.92½	.95	.92½	.95
Bunker C (bunkers)	1.05		.95	
NEW YORK (Bayonne, N. J.)—				
28 plus, gas oil	.04	.04½	.04	.04½
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04½		.04½	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.20		1.10	

*Lighterage charge 5 cents per barrel additional.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

	Dec. 5		Nov. 28	
Breeze (screenings)	4.50		4.50	
Still run	5.50		5.50	
Direct from still	6.50		6.50	
Lump and egg	7.50	7.75	7.50	7.75

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Vis. at 100° F. unless otherwise stated, and color N.P.A.)

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
Zero to 10 Cold Test:				
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09¼	.09½	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10¼	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
GULF COAST—				
Pale Oils:				
200-3	.06¼	.06½	.06¼	.06½
300-3	.07	.07½	.07	.07½
500-3½	.07¾	.08¼	.07¾	.08¼
750-3½	.08½	.09	.08½	.09
1,200-3½	.09⅛	.09½	.09⅛	.09½
2,000-4	.10	.10½	.10	.10½
Red Oils:				
200-5-6	.05½		.05½	
300-5-6	.06	.06½	.06	.06½
500-5-6	.06¾	.07¼	.06¾	.07¼
750	.07½	.08	.07½	.08
1,200-5-6	.08¼	.08¾	.08¼	.08¾
2,000-6 plus	.09½	.09¾	.09½	.09¾
CALIFORNIA—				
Pale Oils:				
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25
350-3-4	.23	.25	.23	.25

400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25
550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25
350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25
450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., No. 3, 400-405:				
Zero pour test	.21½	.21¾	.16½	
10 pour test	.20¾	.21	.16	
15 pour test	.19¾	.20	.15	
25 pour test	.19	.19¼	.14¼	
180 vis. at 70° F., No. 3, 25 pour test	.22	.22¼	.17¼	
200 vis. at 70° F., No. 3:				
Zero pour test	.26¾	.27	.22	
10 pour test	.25½	.25¾	.21	
15 pour test	.24½	.24¾	.20	
25 pour test	.24	.24¼	.19¾	

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
630 light green	.09½	.12½	.09½	.12
600 light green S.R.	.07	.09	.07	.09
600 dark green S.R.	.05	.07	.05	.07
Bright Stocks:				
190-200 D	.24	.25	.24	.25
150-160 D, 0-10	.22¼	.22½	.22¼	.22½
150-160 D, 10-25	.21¾		.21¾	
150-160 D, 25-40	.21¼		.21¼	
150-160 E	.21¼		.20½	
PENNSYLVANIA—				
600 S.R.	.15½		.15½	
650 S.R.	.18	.18½	.18	.18½
600 Pennsylvania flash	.18	.18½	.19¾	
600 Warren E filtered	.19¼	.19½	.19¼	.19½
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 at 210; 540-550 flash:				
10 pour test	.27½		.27½	
15 pour test	.26	.26½	.26	.26½
20 pour test	.25¼	.25¾	.25¼	.25¾
25 pour test	.25	.25½	.25	.25½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Dec. 5		Nov. 28	
124-126 white crude scale	.03¾		.03¾	
PENNSYLVANIA—				
122-124	.0415	.0420	.0415	.0420
124-126	.0420	.0425	.0420	.0425
NEW YORK HARBOR—				
124-126 crude scale	.04	.04⅛	.04	.04⅛
Fully refined wax, in bags:				
120-122 (a.m.p.)	.0430		.0430	
123-125 (a.m.p.)	.0445		.0445	
125-127 (a.m.p.)	.0455		.0455	
130-132 (a.m.p.)	.0495		.0495	
133-135 (a.m.p.)	.0555		.0555	
135-137 (a.m.p.)	.0580		.0580	
Petrolatum in barrels in carload lots:				
Dark green	.01⅞	.02	.01⅞	.02
Amber	.02⅞	.03	.02⅞	.03
Extra amber	.03⅛	.03¼	.03⅛	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124	.0465	.0475	.0465	.0475
125-127	.0490	.0500	.0490	.0500
127-129	.0505	.0515	.0505	.0515
130-132	.0565	.0575	.0565	.0575
132-134	.0590	.0600	.0590	.0600

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F., a.m.p.

Export Prices

GASOLINE

GULF COAST—	Dec. 7		Nov. 28	
U. S. Motor	.05¼	.05⅝	.05¼	.05⅜
60-62 400	.05½	.05⅝	.05½	.05⅝
61-63 390	.05⅝	.05¾	.05⅝	.05¾
64-66 375	.05¾	.06	.05¾	.06
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04½	.05	.04½	.05
55-65 octane	.05	.05¼	.05	.05¼
65-67 octane	.05½	.06	.05½	.06
67-69 octane	.06¼	.06¾	.06¼	.06¾
Above 69 octane	.07	.08	.07	.08
58-60 400 endpoint	.05¼	.06¼	.05¼	.06¼
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41-43 water white	.04⅜		.04⅜	
44 water white	.04⅜		.04⅜	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.25½	.26½	.25½	.26½
600 S.R. unfiltered	.22½	.23½	.22½	.23½
650 S.R. unfiltered	.24½	.25½	.24½	.25½
600 flash S.R.	.25½	.26½	.25½	.26½
630 flash S.R.	.29½	.30½	.29½	.30½
Bright stock, No. 8 color	.31½	.32½	.31½	.32½
Bright stock, No. 6½ color, dil.	.30½	.31½	.30½	.31½
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
100-2½	.06½	.07	.06½	.07
180-3¼	.12	.13	.12	.13
230-3¾	.13	.14	.13	.14
Red Engine Oil, Bulk (vis. at 100):				
200-6	.07½	.08½	.07½	.08½
250-6	.08	.08¾	.08	.08¾
300-6½	.09	.09½	.09	.09½
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
120-122 a.m.p.	.04¼		.04¼	
123-125 a.m.p.	.04⅜		.04⅜	
125-127 a.m.p.	.04½		.04½	
130-132 a.m.p.	.05		.05	
133-135 a.m.p.	.05½		.05½	
135-137 a.m.p.	.05¾		.05¾	

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Caddo, Louisiana	11 Sabine-De Soto, Louisiana	12 Homer, Louisiana	13 Sarepta-Carterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas	17 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....	....	....	....	....	....	....	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.63	$.69	$.71	$.75	$.75	$.65	$.62	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.65	.71	.73	.77	.77	.67	.64	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.67	.73	.75	.79	.79	.69	.66	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.69	.75	.77	.81	.81	.71	.68	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.71	.77	.79	.83	.83	.73	.70	.78
Below 29	.84	$.79	0.79	....	....	....	$.84	....	....	....	....	....	....	....	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.73	.79	.81	.85	.85	.75	.72	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.75	.81	.83	.87	.87	.77	.74	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.77	.83	.85	.89	.89	.79	.76	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.79	.85	.87	.91	.91	.81	.78	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.81	.87	.89	.93	.93	.83	.80	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.83	.89	.91	.95	.95	.85	.82	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.85	.91	.93	.97	.97	.87	.84	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.13	1.10	.87	.93	.95	.99	.99	.89	.86	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.89	.95	.97	1.01	1.01	.91	.88	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.91	.97	.99	1.03	1.03	.93	.90	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	.93	.99	1.01	1.05	1.05	.95	.92	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	.95	1.01	1.03	1.07	1.07	.97	.94	1.02

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedules: Below 25 degrees, 76 cents; 25-25.9 degrees, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08: Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co. and Wilcox Oil & Gas Co. All others begin their schedule at below 29 degrees, 84 cents, excepting Phiitex Oil Co., which begins with below 31 degrees at 88 cents.

Column 1—Effective September 29, The Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; The Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phiitex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; on October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, by the Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29 in the Van Pool, Van Zandt County, the Pure Oil Co. posted below 29 degrees, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3—Effective September 29 by the Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective September 29, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 25 degrees, 63 cents, with 2 cents added for each degree up to 40 and over at 95 cents. For Standard Oil Co. of Louisiana's prices see Columns 10 to 16, inclusive.

Column 4—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co. and H. F. Wilcox Oil & Gas Co. On same day Phiitex Oil Co. posted below 31 degrees, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents.

Column 5—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phiitex Oil Co. posted below 31 degrees, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents.

Column 6—Effective September 29 by the Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30 by the Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12, with a 1-cent spread on each degree.

Column 7—Effective September 29 by the Stanolind Oil & Gas Co.

Column 8—Effective September 29 by the Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 26-26.9 degrees, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 20 degrees, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20 degrees, 70 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.06; and in Black Bayou and White Castle, Louisiana: Below 20 degrees, 80 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.10.

Column 9—Effective September 30, the Texas Co. (On September 29, the Texas Co. had posted a schedule 2 cents lower on each degree, but changed it on September 30.)

Columns 10, 11, 12, 13, 14, 15, 16—Effective September 29, by the Standard Oil Co. of Louisiana and Louisiana Oil Refining Co.

Column 17—Effective September 29, by the Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 41)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.08
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933)	$.75
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.70
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties	See gravity table.

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers..... (See gravity table)

Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.85
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Oil & Gas Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co. Effective September 29 in Salt Flat by Shell Petroleum Corp.

(Continued on Page 41)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

December 5, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	21.5	21.5	7.5	14.0
Augusta	21.5	21.5	7.5	14.0
Macon	22.0	22.0	7.5	14.0
Savannah	22.0	22.0	7.5	14 0
Birm'ham, Ala.	24.0	24.0	8.5	13.5
Mobile	23.0	23.0	8.5	12.5
Montgomery	25.0	25.0	8.5	14.5
Jackson, Miss.	22.0	22.0	7.5	13.0
Vicksburg	21.5	21.5	7.5	13.0
Jack'ville, Fla.	22.0	22.0	8.5	13.5
Miami	22.0	22.0	8.5	13.5
Pensacola	20.0	20.0	8.5	13.5
Tampa	22.0	22.0	8.5	13.5
Lexington, Ky.	20.5	20.5	6.5	11.0
Covington	20.0	20.0	6.5	11.0
Louisville	20.0	20.0	6.5	11.0
Paducah	19.5	19.5	6.5	11 0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1-cent state tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1-cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	16.5	19.5	5.5	8.5
Fort Worth	16.5	19.5	5.5	8.5
Houston	15.5	18.5	5.5	8.5
San Antonio	16.5	19.5	5.5	8.5
El Paso	17.0	20.0	5.5	11.0
Texarkana	*16.0	15.0	5.5	8.5
Muskogee	16.0	18.5	5.5	8.5
Okla. City	16 0	18.5	5.5	8.5
Tulsa	16.0	18.5	5.5	8.5
Ft. Smith Ark.	*17.9	17.9	5.5	9.0
Little Rock	*20.4	20.4	7.5	9.0

*Less 3 cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	17.8	17.8	4.5	9.7
Decatur, Ill.	18 2	18.2	4.5	10.2
E. St. Louis	17.5	16.7	4.5	9.5
Joliet	18.2	18.2	4.5	10 2
Peoria	18.2	18.2	4.5	10.2
Quincy	18.0	18.0	4.5	10.0
Davenport, Ia.	18.1	18.1	4.5	10.1
Des Moines	18 1	18.1	4.5	8.0
Mason City	18.1	18.1	4.5	10.1
Sioux City	17.7	17.7	4.5	9.7
Duluth, Minn.	18.7	18 7	4.5	10.4
Mankato	18.3	18.3	4.5	10.3
Minneapolis	18.4	18.4	4.5	10.4
LaCrosse, Wis.	19.8	19.8	5.3	10.8
Green Bay	19.2	19.2	5.5	10 2
Milwaukee	18.7	18.7	5.5	9.7
Madison	18.9	18.9	5.5	9.9
Detroit, Mich.	18.0	18.0	4.5	10.5
Grand Rapids	18.2	18.2	4.5	10 2
Saginaw	18.5	18.5	4.5	10.5
Evansville, Ind.	16.0	16.0	5.5	10.0
Indianapolis	19.2	19.2	5.5	10.2
South Bend	19.5	19.5	5.5	10.5
Fargo N. Dak.	20 1	20.1	4.5	12.1
Huron, S. Dak.	20.4	20.4	5.5	11.4
Sioux Falls	19.9	18.9	5.5	10.9
K. C., Mo.*	17.2	17.2	4.5	8.2
Springfield*	17.1	17.1	4 5	9.1
St. Louis	16.2	16.2	4.0	8.7
St. Joseph*	16.8	16.8	4.5	8.8
Wichita, Kans.	16.1	16.1	4 5	8.1
Bartlesville, Ok.	16.5	19.0	5.5	8.5

*State tax 2 cents, 1-cent city tax and 1½-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by resellers up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective September 13, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents; No. 2 (30-34 stw. zero), 7¾ cents; No. 3 (22-26 zero), 7¼ cents; No. 4 under 300 gallons (12-16 zero), 6¼ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5 under 300 gallons, 6 cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank wagon
Oleum spirits	13.9
V.M.&P. naphtha	15.9
Cleaners' naphtha	15.0
Stanisol	15.0

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	19.2	18.7	4.5	10.0
Newark	18.5	18.0	4.5	9.5
Annapolis, Md.	19.8	19.3	5.5	10.0
Baltimore	19.3	18.8	5.5	9.0
Cumberland	20.8	20.3	5.5	12.7
Wash'g'n, D. C.	17.5	15.0	3.5	11.0
Danville, Va.	21.9	21.4	6.5	12.9
Norfolk	20.4	19.8	6.5	11.2
Petersburg	21.2	20.7	6.5	11.4
Richmond	20.8	20.3	6.5	11.7
Roanoke	22.0	21.5	6.5	12.9
Charls'n, W.Va.	20.2	19.7	5.5	12.6
Parkersburg	19.5	19.0	5.5	11.2
Wheeling	20.2	19.0	5.5	12.2
Charlotte, N. C.	23.6	23.1	7.5	13.5
Hickory	23.9	23.4	7.5	13.7
Mt. Airy	23.9	23.4	7.5	13.8
Raleigh	23.4	22.9	7.5	13.2
Salisbury	23.7	21.5	7.5	13.0
Charleston, S.C.	21.4	20.9	7.5	11.2
Columbia	23.2	22.7	7.5	13.2
Spartanburg	23.6	23.1	7.5	13.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	20.8	20.0	*7.5	†12.0
Baton Rouge	20.0	19.5	6.5	†12.0
Alexandria	20.9	20.4	*7.5	†10.0
Lafayette	21.1	20.6	*7.5	†12.0
Lake Charles	21.0	20.5	*7.5	†12.0
Shreveport	18.8	18.3	6.5	†12.0
Knoxville, Tenn.	24.2	23.2	8.5	13.5
Memphis	22.6	21.5	8 5	9.5
Chattanooga	24.0	22.9	8.5	12.0
Nashville	23.5	21.5	8.5	11.0
Br'stol	24.1	22.5	8.5	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Commercial consumers for tank wagon delivery pay following amounts over tank car price, basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank truck†	Posted retail	Incl'ds tax	tank wagon
San Francisco	15.0	18.0	4.5	12.5
Los Angeles	14.5	17.5	4 5	12.5
Fresno, Calif.	16.0	19.0	4.5	14.0
Phoenix, Ariz.	18.5	21.5	6.5	‡16.0
Reno, Nev.	18.5	21.5	5.5	15.5
Portland, Ore.	19.0	22.0	5.5	13.5
Seattle, Wash.	19.0	22.0	6.5	13.5
Tacoma	19.0	22.0	6.5	13.5
Spokane	21.5	24.5	6.5	15.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

New York and Part of New England District

STANDARD OIL CO. OF NEW YORK

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ibany, N. Y.	17.1	18.1	4.5	9.5
New York	17.0	18.0	4.5	8.5
Buffalo	17.7	18.7	4.5	9.5
Rochester	17.5	18.5	4.5	9.5
Syracuse	17.6	18.6	4.5	9.0
Boston, Mass.	17.0	18.0	4.5	8.0
Augusta, Me.	18.5	19.5	5.5	9.0
Manch't'r, N.H.	19.3	20.3	5.5	9.5
Burlington, Vt.	19.8	20.8	5.5	9.0

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Philadelphia, Pa.	14.5	15.0	4.5	10.0
Pittsburgh	17.0	18.0	4.5	10.0
Allentown	17.0	18.0	4.5	10.0
Erie	17.0	18.0	4.5	10.0
Scranton	17.0	18.0	4.5	10.0
Altoona	17.0	18.0	4.5	10.0
Dover, Del.	17.0	18.0	4.5	10.0
Wilmington	16.5	16.5	4.5	10.0
Boston, Mass.	17.0	18.0	4.5	8.5
Springfield	17.6	18.6	4.5	8.5
Worcester	17.5	18.5	4.5	8.5
Hartford, Conn.	16.4	17.4	3.5	8.5
New Haven	16.2	17.2	3.5	8.5
Providence, R.I.	16.0	17.0	3.5	8.5

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	19.0	21.5	5.5	13.5
Pueblo	19.0	21.5	5.5	13.0
Grand Jctn.	21.0	23.5	5.5	15.0
Casper, Wyo.	19.5	22.0	5 5	11.0
Cheyenne	18.0	20.5	5.5	13.0
Butte, Mont.	21.0	23.5	5.6	17.5
Billings	23.0	25.5	6.5	16.5
Helena	23.0	25.5	6.5	17.5
Great Falls	22 5	25.0	6.5	17.5
Salt Lake, Utah	22.0	24.5	5.5	16.0
Boise, Idaho	23.0	25.5	6.5	18 0
Twin Falls	23.0	25.5	6.5	18.0
Albu'que, N. M.	19.5	22.5	*7.5	13.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

STANDARD OIL CO. OF OHIO

Ohio

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	17.0	18.0	5.5	*12.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Hamilton, Ont.†	26.5	27.5	6 0	17.5
Toronto, Ont.†	26.5	27 5	6 0	17 5
Brandon, Man.*	31 0	34.5	7.0	22 5
Winnipeg, Man.	28.0	31.5	7.0	19.5
Regina, Sask.	31.0	35.0	6.0	22.5
Saskatoon, Sask.	33.0	37.0	6.0	25 5
Edmonton, Alta.	31 5	35.5	6.0	24 5
Calgary, Alta.	28.0	32.0	6 0	21.0
Vanc'ver, B.C.†	30.0	31.0	7.0	24.0
Montreal, Que.	24 0	27.0	6 0	17 0
St. Johns, N.B.	26.5	30.5	7 0	21.0
Halifax, N. S.	25.5	29.5	6.0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 3 cents per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	18.8	19.8	5.5	10.8
McCook	19.0	19.0	5.5	9.0
Norfolk	19.3	20.3	6 5	11.3
N. Platte	20.3	21.3	5 5	10 5
Scottsbluff	19.8	19.8	5.5	11.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown gasoline, 2 cents. Reliance (third grade) gasoline, 2 cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contract (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of Louisiana, November 16, reduced the tank wagon price of kerosene 1½ cents in Memphis. November 20 it reduced the kerosene price 2 cents in Alexandria, La. November 21 it advanced the service station price of gasoline 3 cents in New Orleans.

Standard Oil Co. of California, November 29, advanced the tank wagon and service station prices of gasoline 4 cents in Los Angeles, and 2½ cents in Fresno.

Magnolia Petroleum Co., November 16, reduced the tank wagon and service station prices of gasoline 4½ cents in Texarkana. November 11 it advanced the tank wagon price of kerosene 2½ cents in El Paso.

Stronger Gasoline Future Seen in East Coast Area

(Continued from Page 31)

are obtaining a maximum protection of $1.50 or $1.60 per barrel.

Prices

Major refiners continue to quote 6¼ cents for 60-64 octane U. S. Motor gasoline in tank car deliveries at New York Harbor points and one-fourth cent more for 65 octane and above. On low octane material prices range from 5¾ to 6 cents. Diesel fuel oil continues to be quoted at $1.95 per barrel with some of the trade predicting that the price will be advanced 10 cents per barrel before the end of the month. Prices on furnace oil distillates in tank car lots range from 4 to 5½ cents depending on grade. Gas oil of from 28 to 32 gravity is firm at 4½ cents.

The recent advances in wax prices for domestic and export movement are being maintained. Cylinder stock prices for export movement reflect firmness. Petrolatum prices are strong at the levels established early in November.

Buyers Complain

Some complaint has been made by the shipping trade in regard to the price advances. The passenger liners are large consumers of bunker fuel oil and the price advances of the past year have materially increased costs. The example of the Majestic is cited. This large passenger liner, which makes regular trips to Europe, consumes 900 tons or approximately 6,000 bbls. of fuel oil daily. Thus, if this boat is not protected by contract, the increase of 10 cents per barrel increases its operating costs $600 per day or $3,600 for a six-day trip across the Atlantic. The total fuel oil cost on a round trip is now approximately $85,000.

The only change in industrial fuel prices as a result of the boost in the bunker price applies to what is known as a No. 6 oil used by industrial plants. This product has been advanced so that it is now quoted at 4.0476 cents per gallon in tank wagons delivered in the metropolitan area of New York and 3.5714 cents per gallon in New Jersey points which are close to the coast.

MICHIGAN GAS LINE

MOUNT PLEASANT, Mich., Dec. 2. A new gas line from the Kerr well in Elba Township, Gratiot County, has been completed to the village of Ashley by Miller & Combs, who are now ready to serve this community with natural gas from the Elba Pool. The same operators have franchises to distribute gas in other Gratiot County communities, but will not extend their line beyond Ashley at present.

CIRCULATION 75,000

BIG NEWS

Published by Sinclair Refining Company (Inc.), 45 Nassau Street, New York, N. Y.

NRA WE DO OUR PART

SINCLAIR SKY TRAIN THRILLS MILLIONS

SINCLAIR SKY TRAIN soars above Manhattan's towers, thrilling millions of New Yorkers in a daring demonstration that the world changes. The sky train — an airplane as "locomotive," towing two motorless gliders as "passenger coaches"—was lubricated with Sinclair oils and was flown in connection with the world premiere of Warner Brothers' motion picture, "The World Changes."

The Sinclair Sky Train flight celebrated a great change in the field of lubrication—the new Sinclair Tamper-Proof can method of merchandising motor oil.

SINCLAIR EXHIBIT, featuring Sinclair motor oils in Tamper-Proof cans, as it appears in the lobby of the Hollywood Theatre on New York's "Great White Way." At this theatre, the world premiere of the motion picture, "The World Changes" was presented before a colorful first-night audience. The picture is attracting large crowds and thousands of moviegoers view the Sinclair display in a single day. This exhibit and the Sinclair Sky Train flight are part of the Sinclair Refining Company's program to help its dealers increase their profits by selling more and more Sinclair products.

PILOT pours Sinclair motor oil from the new Tamper-Proof cans into the sky train "locomotive." Also Sinclair-lubricated was the autogyro which headed the sky train parade over New York City. The autogyro hauled a banner reading, in letters nine feet high, "Sinclair Oil Sky Train."

[FREE—Your copy of BIG NEWS—Sinclair's interesting newsy tabloid published monthly for gasoline dealers. For your free copy, write BIG NEWS, Sinclair Refining Company (Inc.), 45 Nassau Street, New York, N. Y.]

NATURAL GASOLINE MANUFACTURE

California Draws Upon Natural Gasoline Stocks

Natural gasoline production during October decreased 142 bbls. daily and amounted to 33,069 bbls. daily, according to the California Division of the Bureau of Mines. Refinery utilization decreased 77 bbls. daily and amounted to 30,712 bbls. but shipments, the first since July, amounted to 6,531 bbls. daily. Natural gasoline production for 1933 through October amounted to 32,000 bbls. daily, a decrease of 4,000 bbls. under 1932 and refinery utilization amounted to 26,000 bbls. daily, the same as in 1932. Stocks at the end of October were 2,540,106 bbls., a decrease of 187,413 bbls. under last month and a decrease of 160,000 bbls. under October, 1932.

SUPPLY

	Natural gasoline—Oct.	Natural gasoline—Sept.
Total production	33,597	33,594
Stock trans. (deliv.) receipt—net	(178)	(310)
Total	33,419	33,284
Deduct refinery requirements:		
Runs to stills	3,599	3,494
Blended	27,113	27,295
Total	30,712	30,789
Gains (losses) unaccounted for—net	(1,712)	(3,282)
Net supply available to market	995	(738)

DEMAND

Domestic consumption inc. bunkers	510	371
Offshore shipments:		
Alaska and Hawaii	0	1
Pac. foreign exports	1,432	0
Atl'tc. foreign exports	5,099	0
Rail and truck shipments to U. S.: Points outside Pac. Coast territory	0	14
Total market demand	7,041	0
Surplus or (deficit)	(6,046)	0

OPERATING DATA FOR OCTOBER

Number of plants operating	103
Daily cap. in thousands cu. ft.	2,364,652

PRODUCTION BY FIELDS

	Gas treated (thousand cu. ft.)	Natural gasoline produced (gallons)
Fullerton and Whittier	473,692	1,198,440
Midway	1,476,889	2,753,002
Huntington Beach	1,670,903	2,810,032
Kettleman Hills	9,916,182	12,576,866
Long Beach	2,111,112	5,675,961
Richfield	546,364	576,759
Santa Fe Springs	3,902,337	6,334,820
Seal Beach	725,676	1,352,834
Ventura Avenue	3,400,302	3,382,559
All other fields	3,889,890	6,394,496
Total	28,113,397	43,055,769

PRODUCTION BY METHODS

Type of plant	Gas treated	Natural gasoline produced (gallons)	Gasoline recovery per m.c.f. gas treated
Oil absorption	27,981,886	42,910,185	1.533
Compressor	131,511	145,584	1.107
Total	28,113,397	43,055,769	1.532
Finished gasoline produced at plants			Bbls. 75

STOCKS

	Gallons	Barrels
Natural gasoline held by plant operators	2,729,454	64,987
Natural gasoline held by refiners	103,954,998	2,475,119
Total	106,684,452	2,540,106

LIQUEFIED PETROLEUM GASES

(Daily—barrels)

	Oct.	Sept.
Production	528	384
Sales	519	371

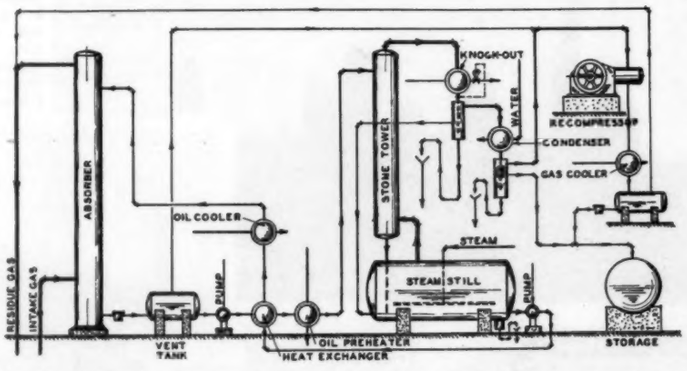
Adoption of the Absorption Plant Led Way to Modern Low-Pressure Unit

The oil absorption process was a distinct departure from the original methods of extracting gasoline from natural gas. While this process was being used in the coal industry in England as far back as the year 1874, it did not come into general use in the gasoline industry in this country until about 1915-16. However, the first plant of this type of commercial importance was put into operation in 1913. Due credit for the initial experimental work and development of this process as applied to the gasoline industry must be given to G. M. Saybolt.

The accompanying flow diagram is of an early type absorption plant. Intake gas containing gasoline hydrocarbons is shown entering the absorber at the bottom and leaving at the top as residue or dry gas, while lean oil enters the top of the absorber, trickles down through the tower packing to the bottom, where it is drawn off continuously through a trap and sent to a vent tank. The oil, in its passage through the tower packing, absorbs the heavy gasoline fractions of the gas and also a considerable portion of the lighter fractions, depending on the quantity of oil circulated. When the rich oil enters the vent tank a large portion of the gasoline fraction escapes, due to the reduced pressure of the oil at this point. These escaped vapors pass through a back pressure regulator which holds a pressure of 5 pounds or less on the vent tank, and go to a compressor where they are compressed to a pressure of 75 to 100 pounds and discharged through a cooler where condensation occurs. The condensate is collected in an accumulator tank and is trapped to the storage tanks. The noncondensable gases leave the accumulator tank through a back pressure regulator and are used for fuel.

The rich oil is pumped from the vent tank through a heat exchanger where it receives heat from the hot lean oil from the still. It then passes through a steam-heated preheater, where it is brought to a temperature suitable for distillation before entering the "stone" tower. The "stone" tower is similar in construction to the absorber, being packed with broken stones, gravels, or other materials. As the rich oil flows down through the "stone" tower it is stripped of the greater portion of its gasoline content by the action of live steam which passes upward through the tower. The partially stripped oil flows from the "stone" tower into the steam still, where it receives a further steaming to remove as much of the remaining gasoline fractions as possible. The stripping steam is admitted to the still and stone tower through a perforated pipe placed below the oil level in the still. The gasoline fractions leaving the oil absorb heat in an amount equal to their latent heats of evaporation. This heat is absorbed principally from the oil, causing the oil leaving the stone tower to be cooler than the oil entering. This drop in temperature is compensated for by installing heater pipes in the bottom of the steam still, thus effecting a more complete stripping of the gasoline fractions from the oil.

The steam flowing upward through the stone tower carries with it the gasoline vapors and a small quantity of the light ends of the absorption oil. These vapors leave the top of the tower and pass through the knockout condenser where they are cooled to a temperature of approximately 180° F. This cooling results in the condensation, or knocking-out, of the absorption oil which must not be allowed to contaminate the gasoline product. The condensate from the knock-out condenser is collected in a separator provided with a run back pipe to carry the condensed oil vapors back to the still, and a water siphon which automatically discharges any steam condensate produced. Steam and gasoline vapors leave the separator and enter the gasoline condenser where total condensation of the steam occurs, and where a substantial portion of the gasoline vapors are condensed. The condensate from this condenser is collected in another separator, which discharges the steam condensate through a water siphon and the gasoline through a liquid seal to storage. The noncondensable vapors pass through a back pressure regulator which maintains a pressure of about 2 pounds on the condensing system and are disposed of in the same way as the vapors from the vent tank.



The hot lean oil is pumped from the still and charged through the heat exchangers, where it gives up part of its heat to the rich oil. It then passes through the oil coolers to the absorber, thus completing the cycle.

In comparing the early absorption plant with the modern plant of this type, it will be seen that the two systems are identical in principle. However, great improvements have been made in both the absorption and distillation apparatuses. The modern bubble tray type of absorber of given size provides greater capacity and will perform a more efficient job of absorption than the same size column of the packed type, and is therefore more economical. The early distillation apparatus with its stone tower, steam still, and knockout box has been replaced with the modern fractionating still. This modern apparatus is capable of making an almost complete separation between the absorption oil and the gasoline fractions, a separation quite impossible to obtain with the old style distillation unit. The prevailing specifications for high quality gasoline will not permit contamination of the gasoline product with absorption oil. Neither will the absorption apparatus function efficiently with a partially stripped absorption oil. It is evident then that particular care must be exercised in the design or selection of both absorption and distillation equipment.

Note—The above discussion is the fourth of a series tracing chronologically the major changes made in plant design and operation since the earliest compression plant.

O. C. Fields Gasoline Co. to Build 25,000,000-Foot Plant

The O. C. Fields Gasoline Co. has just completed final plans for the immediate construction of a new natural gasoline plant to be located at Twentieth Street and Walnut Avenue in the Huntington Beach town lot area. The plant will have a capacity of 25,000,000 feet of natural gas per day and should recover approximately 40,000 gallons of gasoline per day. When ready for operation the plant will add 15 regular employes to the present working force of 45 men employed by the O. C. Fields Gasoline Corp. The Fields organization has for years been taking natural gas from scores of wells in the Huntington Beach district and while the amount of natural gas available for treatment has shown a consistent decline, the possibility of an early settlement of the so-called crooked hole law suit instituted by the State practically assures a new source of supply. The company recently bought 10 lots upon which to erect the new plant and will begin work as soon as the Flour Construction Co., which has the contract, can get material on the ground. The site was bought in parcels from Walter Dabney, E. Faws, South Basin Oil Co., and Pacific Western Oil Co.

BUILD LOADING FACILITIES

HOUSTON, Tex., Dec. 4.—Phillips Petroleum Co. of Bartlesville, Okla., is constructing loading facilities on the Houston Ship Channel at Pasadena, east of Houston, for handling its natural gasoline shipments. Two additional 55,000-bbl. storage tanks also are being erected. The loading facilities are adjacent to the company's stabilizing plant and tank farm which has been in operation several years. Until now shipments have been handled over the terminal of the Crown Central Petroleum Corp., adjoining the Phillips property.

MARKET SHOWS WEAKNESS

In the past week the natural gasoline market in the Mid-Continent has showed continued weakness as the result of slow refinery buying. Under the code the Oklahoma and Kansas refiner is asked to curtail gasoline production over the last two months of 1933 to 77.8 per cent of the volume of gasoline he shipped during September and October.

Because natural gasoline, taken into the refinery for blending with refinery production is considered as part of the refinery production, it is only reasonable that as little natural gasoline is purchased as is absolutely necessary to meet the needs of current shipments.

Slight Price Improvement Is Reported in the Chicago District Refined Market

By STAFF CORRESPONDENT

CHICAGO, Dec. 4.—A firmer market tone and slight price improvement are indicated in oil markets generally. Actual volume of business has picked up a little recently and more encouragement is being felt as to the long-term trend.

Gasoline is enjoying somewhat better interest from jobbers than for a long time. Jobber buying remains limited and without any particular snap, but buying is improved slightly from the low levels recently indicated. It seems possible the market may be "on edge" and that any material buying might send it into considerably higher ground. This, at any rate, is the belief of refiners.

Much uncertainty remains, however. Refiners are in doubt as to obtaining crude requirements, but contend higher refined products' prices are only a question of time. Jobbers are not inclined to argue this point, although there is little speculative buying. A good many of the larger refiners are discouraging speculative buying on the part of jobbers. Doubt over the outlook for the half-cent Federal tax that was to be lopped off with the repeal of the Eighteenth Amendment is still holding back active participation in the spot market. Many here feel the need of revenues in the Government is such that some means of retaining the present rate of the gasoline tax will be found.

Ruling prices for principal grades of gasoline here show slight changes. The firmness has proceeded just a slight degree farther and material is not quite so freely offered. So far as can be found here, no actual distress gasoline exists. The understanding is that a number of major companies are so genuinely convinced of the underlying soundness of the market they are willing to take nearly any amount of material that may be offered at concessions.

With a firm crude structure in the background, refiners say there is certainly no need to offer gasoline for sale in quantities at current unprofitable prices except in those cases where refiners may be pressed to meet high crude bills, etc. Higher crude and higher gasoline both are being readily predicted here before the end of the year.

Tank wagon and service station markets show little change. These markets seem to be holding their own and many current irregularities are expected to be smoothed out when tank car gasoline prices advance. Third-grade material is principally affected, although around the larger centers regular grade material is offered at numerous outlets around 1 cent below ruling price levels.

Good demand for volatile materials and persistent firmness in naturals are keeping 64-66 and 68-70 grades quite firm. Special aviation material is also tightly held.

Kerosene continues extremely dull, at little premium over the heating oils. Demand is missing and refiners are running more now to distillate, which is enjoying a good call on a firming price basis. Although there has been no real winter weather as yet throughout most of the central territory, and although stocks of distillates are presumed to be fairly ample, all materials above 32-36 industrial grade are commanding respectful attention from carlot marketers who need them. Prices on all grades of good heating oils are now reaching a point where further advances will pinch the distributors, considering the many summer consumer contracts issued with 1-cent advance guarantees. Most of these contracts are now at their tops. The question of what will happen under these contracts is interesting.

Fuels are firm. This is especially true of zero products suitable for heating purposes, with No. 3 material especially in demand. On industrial products, there is a mixed sentiment. With higher crude talked, there was a recent move for industrial consumers to protect their requirements, but the current movement is not very heavy. Industrial gas oil also is dull. Some crude from the south is being offered in lieu of refinery fuel.

Naphthas and solvents present an entirely firm aspect. The recently-agreed-upon price scale has been reached by most products and in most cases sellers report themselves able to obtain these prices without great difficulty.

Strength in the Pennsylvania neutrals has made itself felt in the lubricating oil market here in the past few days. There has been a good early call for 10-W and 20-W winter motor oils recently announced. Lubs in general are tight and in good tone.

Wax remains outstandingly strong, with good demand all around, especially for high melting stock. Foreign inquiry is reported growing, while domestic takings are good.

Petroleum coke shows no material change but appears quite firm. Demand has remained about stationary, and trade reports indicate it to be in fairly good position marketwise.

Crude Oil Prices

(Continued from Page 37)

Rocky Mountain States

Ilea, light (Sept. 29, 1933) ..... $.96
Ilea, heavy (Sept. 29, 1933) ..... .90
Florence, Colo. (June 17, 1933) ..... .30
Fort Collins and Wellington, Colo. (June 17).....(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)..... 1.01
Frannie, light (Sept. 29, 1933) ..... .87
Frannie, heavy (Sept. 29, 1933) ..... .62
Salt Creek and La Barge (Sept. 9, 1933)
See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 29, 1933) ... 1.18
Grass Creek, heavy (Dec. 15, 1932).... .45
Elk Basin (Sept. 29, 1933) 1.18
Rock Creek (Sept. 29, 1933) 1.02
Dutton Creek (July 8, 1933) .....
.....See Mid-Continent gravity prices
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Jan. 18, 1933) ..... .52
Lost Soldier (Sept. 30, 1933) ..... .88
Hamilton Dome (Dec. 16, 1932) ..... .25
Torchlight (Sept. 29, 1933) 1.18
Greybull (Sept. 29, 1933) 1.18
Pondera 1.15
Sunburst (Sept. 29, 1933) 1.35
Cat Creek, Montana 1.07
Hogback (Sept. 29, 1933) 1.11
Lea County, N. Mex. (Sept. 29, 1933) .. .75
Maljamar (Sept. 29, 1933) ..... .70
Artesia-Jackson (Sept. 29, 1933) ..... .70

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Ilea by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) 0.70
Urania, La. (Oct. 3, 1933) ..... .75
Nevada, Ark. (Sept. 29, 1933) ..... .60
East El Dorado (Sept. 29, 1933) ..... .70
Other fields.....(See gravity table)

Note—Smackover: Effective September 29, 1933, Tex. Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective October 4, 1933)
Bradford, Pa. $2.45
Allegany, N. Y. 2.45

SOUTH PENN OIL CO.
(Effective October 4, 1933)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 2.12
Pennsylvania Grade Oil in Eureka Pipe Line lines 2.07
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.92
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933) 1.32

PENNZOIL CO.
(Effective October 4, 1933)
Pennsylvania Grade Oil in National Transit Lines:
Group A $2.37
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 2.36
Includes Titusville district.
Group C 2.35
Includes Turkey and Tidioute districts.
Group D 2.34
Includes Bear Creek and Porkey districts.
Group E 2.33
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective October 4, 1933)
Cabin Creek, W. Va. $2.17
Bradford Hollow, W. Va. 2.17
Kelly Creek, W. Va. 2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)
Lima $1.30
Illinois 1.33
Princeton, Ind. 1.33
Plymouth ..... Shut in
Western Kentucky 1.18
Midland, Mich. (Sept. 30, 1933)* 1.02
Oceana, Mich. (Oct. 5, 1933) ..... .90
Somerset, Ky. (Sept. 30, 1933) 1.22
Hart County, Ky. (Oct. 1, 1933) 1.18

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co

Canada

Ontario (September 9, 1933):
Petrolia* .....†$2.10
Oil Springs* 2.17
Turner Valley (Sept. 11, 1933):†
Clear naphtha $3.50
Discolored naphtha 3.36
Crude oil, 50 gravity 2.93
Crude oil, 45 to 49.9 ..... 2.36
Crude oil, 40 to 44.9 ..... 1.63

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* ..... $.69

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	0.65	....	$.65	$.65	$.65	$.65	....	$.65	0.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.83	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.03	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.05
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.13	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.
Newhall—14 degrees and over, 57 cents.
McKittrick and Kern River—14 degrees and over, 57 cents.
Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.
Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiel Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same prices as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, and Coalinga.

Plan Two More Tests in Runnels County Area; Callahan County Wildcat Attracts Attention

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 4.—Two more tests for Runnels County and another outlet for McMillan Pool, one of the best wells yet completed in the O'Brien area of Ward County, and a dry hole on the western side of that county, heavy drilling in the Yates Pool, Pecos County, and an extension to the Addis area, Ector County, were the features for the West Texas district during the week.

Fred Turner and others' No. 1-B Addis, in the SE cor. Section 35, Block 43, Township 2s, T.&P. Survey, Ector County, encountered oil from 3,857-63 feet and an increase in oil at 3,870 feet. It is drilling at 3,910 feet spraying an estimated 30 to 50 bbls. per day with 4,000,000 feet of gas. This test marks an extension of a little over one-half mile southeast. Lime was topped at 3,634 feet and the 7-inch casing was set at 3,642 feet.

Continental Oil Co. staked location on the Holt ranch in Section 20, Block A, P.S.L. Survey, in the Holt-Cowden producing area of northern Ector County. It is a south offset to Landreth Production Co. and others' No. 1 Holt producer.

Broderick and Calvert's No. 1 Cowden in Section 25, Block 44, Township 2s, T.&P. Survey, Ector County, has been given an official initial production of 214 bbls. of oil per day flowing through tubing. Total depth is 4,338 feet. It opened the fourth producing area for Ector County, approximately 5 miles north of the Penn Pool and 5 miles west of the Addis producing area. So far no other tests have been started in the vicinity.

Runnels County

A test is planned for the northwest corner of the Willingham farm, approximately 1 mile west of the McMillan Pool, Runnels County, and H. Giesecke of Ballinger has contracted for a 2,000-foot test southeast of Ballinger in the same county. This test will be about a half mile southeast of a dry hole drilled on the Russell farm by the Gulf Production Co. several years ago.

The Amber Crude Oil Purchasing Co. of San Angelo is laying a small 4-mile line from the McMillan Pool, Runnels County, to a point on the Abilene & Southern Railroad where a loading rack is under construction. This will be the third outlet for the field in which there are four active tests and three producers. One other test spudded but is now shut down. Other tests are planned for the area which produces high gravity sweet oil.

Ward County

The Delaware sand area of western Ward County failed to come through with another producer this week and the Plains Production Co. and Rector Oil Co.'s No. 1 Monroe had to be abandoned as a dry hole. This test is in Section 31½, Scrap File Survey, approximately 1 mile due east of the small Delaware producer discovered by Shipley and others over a year ago. The more recent test topped the Delaware sand at 4,612 feet and was given up at a total depth of 4,702 feet, showing no oil, gas or water. The discovery well in this area, in Section 3, Block 34, H.&T.C. Survey, gave promise of opening a Delaware pool similar to the Wheat Pool 13 miles to the northwest in Loving County. Wells in that pool are not large but produce high gravity sweet oil which finds a ready market, the oil going to El Paso refineries.

Gulf Production Co.'s No. 37 O'Brien, in Section 17, Block F, northern Ward County, appears one of the best wells yet completed on this block which is held almost entirely by the company. The well flowed 731 bbls. in 24 hours with tools in the hole. Total depth is 2,665 feet. Pay was topped at 2,612 feet.

Crane County

The same company's Ordovician test on the Crane-Upton County line, in Section 197, Block F, Upton County, was drilling at 8,161 feet without any showings.

Loffland Brothers' No. 1 Tubbs, in Section 9, Block B-27, western Crane County, is drilling in lime at 4,370 feet without showing for a producer. This test is only a short distance from the discovery well which produced for nearly three years, then went dead. The discovery well was drilled by Cranfill & Reynolds and Gulf Production Co. The latter company is now cleaning out the hole and trying to bring it back on production. It is drilling out cement at 4,100 feet after sidetracking tools which have been in the hole since its completion.

C. C. Duffy and others have assembled a block of approximately 5,100 acres in northeast Crane County and are to drill a 4,000-foot test, to spud by February 10, 1934. This block covers part of Block 43, Township 4s, T.&P. Survey, Block B-24, P.S.L. and Block 43, Township 4s, T.&P. Survey. A former test in the area was abandoned at a total depth of 3,410 feet. This is to the east of the block in Section 43, Block 42.

Culberson County

Magnolia Petroleum Co. has taken a quarter interest in the 80,000-acre block of Anderson & Prichard in Culberson County and are to furnish rig and equipment and drill the test for this interest. The block was assembled by Emil Ott of San Angelo, and lies in Blocks 64, 67 and 68, Township 2, T.&P. Survey and Blocks 117, 118 and 119.

Reagan County

G. R. Snyder and Shell Petroleum Corp. are planning to drill on the D. E. Hughes ranch in Section 14, Ballew Grantee Survey, Reagan County. This will be the first wildcat drilled in Reagan County for some time.

Fisher County

Cranfill & Reynolds completed a good producer in their No. 3 Willingham, in Section 199, Block 1, B.B.B.&C. Survey, northeastern Fisher County, this week. It topped the lime at 3,105 feet and showed for 150 bbls. per day flowing natural before treating with 1,000 gallons of acid. It made 1,044 bbls. on the third day of a three-day test. Total depth is 3,130 feet.

RANGER AND WICHITA FALLS

The Oplin Oil & Gas Co.'s wildcat in Section 349, G. W. Denton Survey, Callahan County, which is showing for an Ellenberger producer at 4,490 feet, has already caused the leasing of a 1,500-acre block 2 miles to the south for a 4,500-foot test to spud by December 20. Location is in the NE Section 376, G. W. Denton Survey. Lane, Carpenter, Davenport and Hughes, who assembled the block, have headquarters in Dallas. The Oplin test is expected to test during the week. If it makes a good producer leasing and drilling will no doubt take on a considerable spurt as other tests drilled have had good showings or produced some oil, and the area is considered as having potentialities.

Knight & Ewing have completed a 180-bbl. pumper in the SW Section 14, Block 11, T.&P. Survey, Shackelford County, opening a new producing sand horizon for the immediate area. It logged sand with an oil showing at 766-77 feet and was bottomed at 948 feet. Before completing it was given a 10-quart shot which increased the production. E. A. Jeter is the fee owner.

Hellams & Kriss have opened another shallow producing area 1 mile south of Lake Wichita and 5 miles from the nearest production, Archer County. Location is on the Jena farm in the southwest corner of the south 140 acres of the Jena 540-acre tract in the William Shaw Survey. Oil sand was logged from 664-67 feet. It is estimated good for 25 bbls. per day.

Young County

Pitzer & West's No. 1 Conner, in the southwest corner of the east 160 acres of T.E.&L. Survey No. 444, Young County, was treated with 2,000 gallons of acid, 150-bbl. top load under 900 pounds pressure and started flowing 30 bbls. per hour after cleaning out and when tested. The test formerly showed good for only 20 bbls. per day before given the acid treatment. Total depth is 3,918 feet. This well extends production 1,250 feet north of the James lime pool which is located 5 miles northwest of Graham in Young County.

The Texas Co. is drilling a test 2½ miles east of the above mentioned pool in Young County and has been reported as having a showing of oil in lime at 3,880 feet, where casing was cemented. It is now shut down waiting for cement to set. If it proves a producer it will extend the pool to the east, opening considerably more new territory to deep lime production.

L. A. Wilkins, of Burkburnett, has purchased from Lowe Farm Oil Co., the south 40 acres of the northwest quarter of T.E.&L. Survey No. 250, the lease having seven shallow producers from the 600-foot pay, with a daily average potential of 87 bbls. Other tests are to be drilled on the tract by the new owner.

The daily average production for the week in the Wichita Falls district was 56,295 bbls., a decrease of around 215 bbls. per day under the previous week.

PANHANDLE DISTRICT

Activities in the Panhandle district just about hold their own from week to week, with but few locations and completions being reported and several old wells being deepened, the majority of which respond with increases upon deepening. Several interesting wildcats have been started, all of which are drilling at the present time.

Daily average production for the district during the week was 40,090 bbls., a decrease of 345 bbls. under the previous week's daily average.

COMPLETIONS IN NORTH TEXAS DISTRICT

Archer County

Bridwell Oil Co.'s No. 23 Oil Investment Co., oil sand 1,420-30 feet, initial production 20 bbls. of oil and 3 bbls. of water, total depth 1,430 feet. Fain and McGaha's No. 1 Parkey, dry and abandoned, total depth 1,718 feet. Art and Carter's No. 4 Arnold, sandy lime 1,181-93 feet, initial production 90 bbls., treated with 1,000 gallons of acid, total depth 1,193 feet. C. W. Boller's No. 1 Perkins, dry and abandoned, total depth 1,540 feet. Continental and Cullum's No. 10 Falls County School Lands, sandy lime 1,115-28 feet, initial production 190 bbls., total depth 1,128 feet. W. R. Cooper and others' No. 2 Hamilton, oil sand 1,104½-07 feet, initial production 50 bbls., total depth 1,107½ feet. H. Craig and others' No. 4 Harmonson, oil sand 843-51 feet, initial production 12 bbls., total depth 859 feet. F. P. Cullum's No. 4 Logan, sandy lime 1,159-72 feet, initial production 45 bbls., treated with 1,000 gallons of acid, total depth 1,172 feet. Fain and McGaha's No. 3 Falls County School Lands, sandy lime 1,113-26 feet, initial production 150 bbls., total depth 1,126 feet. Jack Grace's No. 1 B. C. Andrews, oil sand 941-56 feet, initial production 60 bbls., total depth 956 feet.

W. B. Hamilton's No. 16 Abercrombie, lime 1,203-14 feet, initial production 113 bbls. in five hours' swabbing, treated with 1,000 gallons of acid, total depth 1,248 feet; No. 18 Abercrombie, sandy lime 1,195-1,207 feet, initial production 95 bbls. in two hours, treated with 1,000 gallons of acid, total depth 1,207 feet; No. 21 Abercrombie, sandy lime 1,197½-1,208½ feet, treated with 1,000 gallons of acid, total depth 1,208½ feet, initial production 155 bbls.; No. 6 Cartwright, sandy lime 1,177-80½ feet, treated with 1,000 gallons of acid, initial production 250 bbls., total depth 1,180½ feet; No. 7 Cartwright, sandy lime 1,166-78½ feet, treated with 1,000 gallons of acid, initial production 100 bbls., total depth 1,178½ feet; No. 3 Ikard, sandy lime 1,166-78½ feet, initial production 75 bbls., treated

(Continued on Page 46)

Wildcat Operations in West Texas

Week Ending December 4

Company, well, farm name, section and block—	Remarks.
ANDREWS COUNTY	
Fuhrman Pet. Co.'s No. 1-B Bonner, 1,320 ft. from N line and 1,320 ft. from E line of Sec. 25, Blk. A-43, P.S.L. Sur.	Location.
BREWSTER COUNTY	
C. M. Joiner's No. 1 McIntyre	To run csg.; T.D. 1,100 ft.
COKE COUNTY	
C. D. Hagerty et al's No. 1 Gaston, in Joseph Young Sur. No. 11	Drlg. 1,100 ft.
CONCHO COUNTY	
Mintex Oil Co.'s No. 2 Waring Estate, 660 ft. from N line, 150 feet from W line SW ¼ Sec. 2126, A. T. Robinson Sur.	Underreaming 2,660 ft.
CRANE COUNTY	
Continental Oil Co.'s No. 2-C Cowden, 330 ft. from N line and 1,650 ft. from W line, Sec. 81, Blk. X, C.C.S.D.R.G.&N.G. Sur.	Drlg. 305 ft.
Gulf Prod. Co.'s No. 1 Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 21, Blk. B-14, Public School Land Sur.	Drlg. 2,130 ft.
Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line, 1,320 ft. from W line, Sec. 9, Blk. 27-B, P.S.L. Sur.	Tested a small show of oil at 4,346 ft.; will test further.

(Continued on Page 47)

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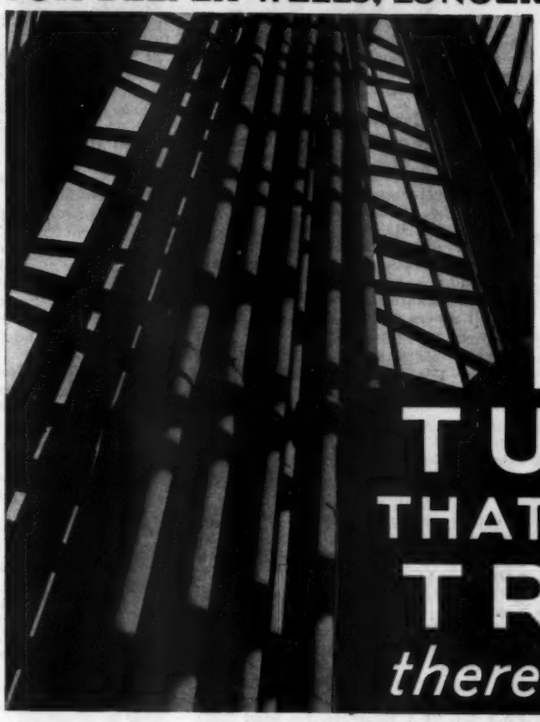

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NATIONAL SEAMLESS

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Test in the Long Lake Area Finally Abandoned; Two Tests Drilling in Anderson County

By L. E. BREDBERG

DALLAS, Tex., Dec. 4.—The test in the Long Lake area, eastern Freestone County, drilled 2¾ miles northwest of the discovery by the Humble Oil & Refining Co. has finally been plugged after drilling over 200 feet below salt water to further check the geological formation and obtain more subsurface information. It was bottomed at 5,590 feet, steel line measurement. Top of the last firm sand was at 5,530 feet, but broken sand was also cored at the bottom.

Abandonment of this test, the second drilled in the vicinity of Long Lake, the first being the small discovery well which is making some salt water along with the oil, has had a deflecting influence on interest formerly displayed in the area. However, this well limits only one direction.

The Tide Water Oil Co. and Texas Seaboard Oil Co., holders of the large block surrounding their discovery well in the extreme southwest part of Anderson County, are now drilling two tests which will decisively prove the potentialities of the field. Their No. 2 Monnig is drilling below 3,700 feet in chalk, having topped the Pecan Gap at 3,566 feet. This test is 1,816 feet due west of the discovery. No. 3 Monnig is approximately three-quarters of a mile southeast. It is standing at 235 feet after setting 60 feet of 12½-inch surface pipe. No. 2 has an elevation of 218 feet whereas the elevation of the discovery was 227 feet. This throws the second test about 25 feet lower on the top of the Pecan Gap than the producer. However, correlations on this formation are not of material importance, the Austin chalk formation being considered far more important due to its proximity to the Woodbine sand, from which wells produce in East Texas.

Henderson County

The test of the Laco Oil Co. on the C. R. Milner farm in the J. B. Atwood Survey, near Athens in Henderson County, logged the Pecan Gap chalk at 2,480-2,576 feet, topped the Austin chalk at 3,514 feet and is drilling at 4,350 feet. This is one of six tests drilled in the vicinity of Athens.

The Cherokee County test of Cranfill & Reynolds on the Southern Pine Lumber Co. holdings in the N. Arrington Survey, is down 2,750 feet.

Leon County

Shell Petroleum Corp.'s No. 1 Beggs, in the John Carter Survey, Leon County, was drilled to 6,140 feet, the last 2 feet being hard gray lime, which may be the Georgetown lime. It was plugged back from this depth to 5,850 feet, 21 feet below where it encountered 75,000,000 feet of gas. It will be completed as a gasser at this depth, sufficient gas being produced at present to drill another test on the block which has already been tested by this well and a former dry hole drilled on the Phillips farm in the Swayze Survey.

Completion of this second test as only a gas well also detracts from this area which formerly looked as if it might furnish another major pool for East Texas and the second pool in the south portion of the East Texas Basin.

The test, which is planned approximately midway between the Leon County gasser and the Long Lake discovery well in Anderson County, is still only a location. This test will be drilled by E. L. Smith Oil Co. and others on the William Simpson farm in the Al Penn Survey in Leon County. Location will make it exceptionally interesting, and several companies have purchased protection in the block surrounding the location.

Navarro County

Syam Oil Co. has abandoned its No. 1 W. B. Coates in the McKinney-Williams Survey, Navarro County, at a total depth of 3,995 feet after showing a large amount of salt water on drill stem test at this depth. This is the second dry hole completed in this area by the company. Elevation is 330 feet.

Cass County

Broderick & Calvert's test on the Cagle farm in the H. Cuningham Survey, Cass County, created considerable interest during the week when it was reported having a showing of oil and gas in the Woodbine at 3,812-22 feet. However, tools were lost in the hole and a fishing job is holding up a test on the sand. Total depth is 3,827 feet.

Other tests proposed for Anderson, Freestone and other counties in the district are slow in getting under way, some of the locations not yet having derricks over them while others have been rigged up and ready to spud for some time, the owners holding back.

Lone Star Gas Co. has staked location for its No. 3 Barron in the E. Mabrey Survey, Limestone County. The company recently abandoned a test in this area.

Hager and others made location for their No. 1 W. A. Irwin in the T. Belt Survey, Hopkins Survey.

EAST TEXAS FIELD

There were 64 locations staked in the East Texas Field during the week and 65 wells completed. This is a drop of 23 locations and 10 completions.

On December 1 wells were reallocated, this time on a 5.4 per cent basis, which means a well can produce only 5.4 per cent of its hourly potential flow. The daily allowable is now 394,672 bbls.

Injunction Hearings

Federal Judge Randolph Bryant, Circuit Judge Joseph C. Hutcheson and another Federal judge will hear the suit of the McMurrey Corp., together with that of the Amazon Oil Co. and others against the Railroad Commission, at Houston on December 14. The suit of the former corporation asks for a temporary restraining order and interlocutory injunction against the commission, attacking oil orders on the ground they were based on a "statement or order" from Secretary Ickes rather than upon evidence of physical waste or market demand.

Decision in the case of the Panama Refining Co. versus A. D. Ryan and others will not be handed down until after the hearing at Houston.

COMPLETIONS IN EAST TEXAS

North Gregg County

Amada Oil Co.'s No. 2 Jones, top sand 3,605 feet, initial production 85 bbls. per hour through open tubing, total depth 3,669 feet. Arkansas Fuel Oil Co.'s No. 6 B. Calvin, top sand 3,528 feet, initial production 67 bbls. in one-half hour through open tubing, total depth 3,553 feet; No. 5 H. Stephens, top sand 3,614 feet, initial production 65 bbls. in one-half hour through open tubing, total depth 3,640 feet. Atlantic Oil Producing Co.'s No. 24-A Burnside, top sand 3,527 feet, initial production 85 bbls. per hour through open tubing, total depth 3,552 feet. Cal Petroleum Co.'s No. 7 W. M. Clements, top sand 3,683 feet, initial production 70 bbls. per hour through open tubing, total depth 3,711 feet. Thomas Carter's No. 3 Barnswell-Anderson, top sand 3,499 feet, initial production 15 bbls. in one-quarter hour through open tubing, total depth 3,530 feet. Continental Oil Co.'s No. 6 B. C. Todd, top sand 3,575 feet, initial production 85 bbls. per hour through open tubing, total depth 3,638 feet.

Empire Gas & Fuel Oil Co.'s No. 8 J. W. Akin, top sand 3,546 feet, initial production 78 bbls. per hour through open tubing, total depth 3,600 feet; No. 11 L. A. Jeter, top sand 3,531 feet, initial production 70 bbls. per hour through open tubing, total depth 3,574 feet; No. 17 T. W. Lee, top sand 3,530 feet, initial production 80 bbls. per hour through open tubing, total depth 3,562 feet. Faith Oil Co.'s No. 8 J. C. Barrett, top sand 3,652 feet, initial production 32 bbls. in one-half hour through open tubing, total depth 3,670 feet. Guiberson Oil Co.'s No. 4 Thrasher-Stucky, top sand 3,563 feet, initial production 100 bbls. per hour through open tubing, total depth 3,616 feet.

Humble Oil & Refining Co.'s No. 14 J. F. Bowles, top sand 3,543 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,576 feet; No. 27 W. R. Hughes, top sand 3,645 feet, initial production 58 bbls. through three-quarters inch tubing choke, total depth 3,675 feet; No. 6 J. M. McFarland, top sand 3,612 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,663 feet. Iron Rock Oil Co.'s No. 2 Foshee, top sand 3,640 feet, initial production 40 bbls. in 20 minutes through open tubing, total depth 3,670 feet. Margay Oil Co.'s No. 4 T. Christian, top sand 3,670 feet, initial production 75 bbls. per hour through open tubing, total depth 3,692 feet. J. H. Massie and others' No. 7 M. Fenn, top sand 3,569 feet, initial production 75 bbls. per hour through open tubing, total depth 3,594 feet. Meridian Petroleum Corp.'s No. 7 T. W. Lee, top sand 3,627 feet, initial production 55 bbls. in one-half hour through open tubing, total depth 3,646 feet. Simms-Rush's No. 13 Flewellen, top sand 3,648 feet, initial production 20 bbls. in one-half hour through open tubing, total depth 3,657 feet.

Stanolind Oil & Gas Co.'s No. 8 G. F. Meadows, top sand 3,706 feet, initial production 17 bbls. in one-quarter hour through open tubing, total depth 3,722 feet. Tide Water Oil Co.'s No. 10 A. F. Sheppard, top sand 3,625 feet, initial production 14½ bbls. in 10 minutes through open tubing, total depth 3,633 feet. W. F. Turner's No. 7 A. Jones, top sand 3,606 feet, initial production 90 bbls. per hour through open tubing, total depth 3,666 feet. H. F. Wilcox Oil & Gas Co.'s No. 2 Godfrey, top sand 3,578 feet, initial production 60 bbls. in one-half hour through open tubing, total depth 3,598 feet. Yount Lee Oil Co.'s No. 10 Hopkins, top sand 3,506 feet, initial production 62 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,526 feet; No. 5-A E. M. Whatley, top sand 3,504 feet, initial production 58 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,524 feet.

South Gregg County

Burton and others' No. 1 D. Smith, top sand 3,640 feet, initial production 75 bbls. per hour through open tubing, total depth 3,651 feet. Cranfill and Reynolds' No. 5 Scott, top sand 3,597 feet, initial production 13 bbls. in one-quarter hour through open tubing, total depth 3,614 feet. Humble Oil & Refining Co.'s No. 1 Roger Lacy, top Georgetown lime 3,530 feet, dry and abandoned, total depth 3,531 feet, N. Screws Survey. John Mabee's No. 13 M. T. Cole, top sand 3,529 feet, initial production 100 bbls. per hour through open tubing, total depth 3,542 feet. Magnolia Petroleum Co.'s No.

East Central Texas Wildcats

Week Ending December 4

ANDERSON COUNTY

Company, well, farm name, section and block— Remarks:

Standard of Kansas' No. 1 A. W. Johnson, 545 ft. from N line and 420 ft. from E and W lines of 22.3-ac. tract, Simon Sanches Sur. ..... Derrick.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Long Lake Plantation, 1,366 ft. due W of Tide Water and Texas Seaboard Oil Co.'s No. 1 Long Lake, Simon Sanches Sur. ..... Set csg. 2,615 ft.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 3 Long Lake Plantation, 3,732 ft. S of No. 1 and 2,799 ft. E at right angles, Simon Sanches Sur. No. 1 ..... Rig up.

ANGELINA COUNTY

H. C. Jennings et al's No. 3 Colmorgan, 1,320 ft. from N line and 1,800 ft. from E line of 200-ac. tract, J. Messingill Sur. ..... S.D. 1,117 ft.

J. M. Seward et al's No. 1 L. J. Dearman, 590 ft. from S and W lines of Dearman S 20-ac. tract, 2¼ miles SE of Zavalla, J. T. Peavy Sur. ..... Drlg. 1,649 ft.

BOWIE COUNTY

R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur. ..... Location.

CHEROKEE COUNTY

Cranfill & Reynolds' No. 1 Southern Pine Lbr. Co., 330 ft. out of SE cor. of survey, N. Arrington Sur. ..... Set surface csg. 361 ft.

A. F. Richardson's No. 1 P. Wood, 660 ft. from N line and 3,300 ft. from E line of 488-ac. tract, 14 miles E of Jacksonville, on Cherokee-Rusk County line, Ignacio Sanches Sur. ..... Derrick.

ELLIS COUNTY

Beckham et al's No. 1 L. S. R. Wood, 150 ft. from N line and 330 ft. from E line of Wood 186-ac. tract, A. D. Lagarza Sur. ..... Derrick.

FRANKLIN COUNTY

Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur. .. Derrick.

FREESTONE COUNTY

Clyde Creighton's No. 1 Holley Bros., 854 ft. from W and center of N and S lines of lease, A.B.&M. Sur. ..... Fishing for drill stem 5,260 ft.

(Continued on Page 47)

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CO-AXIAL SPIRAL

14 J. Radford, top sand 3,654 feet, initial production 100 bbls. per hour through open tubing, total depth 3,657 feet. Rhoads Drilling Co.'s No. 18 Sabine River, top sand 3,550 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,565 feet; No. 31 Sabine River, top sand 3,501 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,525 feet.

Sinclair Prairie Oil Co.'s No. 32-A A. A. King, top sand 3,463 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,510 feet; No. 38-B A. A. King, top sand 3,435 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,473 feet. Sun Oil Co.'s No. 11 Grand Reese, top sand 3,693 feet, initial production 52 bbls. per hour through 1½-inch tubing choke, total depth 3,687 feet. Tide Water Oil Co.'s No. 16 M. G. Barton, top sand 3,556 feet, initial production 16 bbls. in five minutes through open tubing, total depth 3,568 feet; No. 16 M. G. Barton, top sand 3,576 feet, initial production 12 bbls. in five minutes through open tubing, total depth 3,587 feet.

North Rusk County

East Texas Oil & Refining Co.'s No. 7 Andy Givens, top sand 3,662 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,680 feet. Humble Oil & Refining Co.'s No. 105 L. D. Crim, top sand 3,611 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,631 feet; No. 41-B S. S. Laird, top sand 3,567 feet, initial production 80 bbls. through three-quarters inch tubing choke, total depth 3,632 feet; No. 21 J. N. Peterson, top sand 3,610 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,635 feet. Kathleen Oil Co.'s No. 6 J. N. Peterson, top sand 3,629 feet, initial production 150 bbls. per hour through open tubing, total depth 3,637 feet. Magnolia Petroleum Co.'s No. 7 Dick Wells, top sand 3,664 feet, initial production 16 bbls. in one-quarter hour through open tubing, total depth 3,733 feet. Rector and Davidson's No. 2 W. N. Brightwell, top sand 3,661 feet, initial production 50 bbls. in 20 minutes through open tubing, total depth 3,684 feet.

South Rusk County

East Texas Oil & Refining Co.'s No. 5-C Ashby, top sand 3,645 feet, initial production 25 bbls. per hour through open tubing, total depth 3,700 feet. Falcon Oil Co.'s No. 8 T. O. Mason, top sand 3,614 feet, initial production 10 bbls. in one-quarter hour through open tubing, total depth 3,632 feet. Humble Oil & Refining Co.'s No. 5 D. C. Joiner, top sand 3,686 feet, initial production 60 bbls. per hour through three-quarters inch tubing choke, total depth 3,707 feet; No. 4-C R. E. L. Silvey, top sand 3,670 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,702 feet; No. 3-A C. Young, top sand 3,680 feet, initial production 86 bbls. per hour through three-quarters inch tubing choke, total depth 3,706 feet; No. 15-C J. T. Thompson, top sand 3,644 feet, initial production 108 bbls. per hour through open tubing, total depth 3,683 feet. Hunt Production Co.'s No. 10-B Bradford, top sand 3,695 feet, initial production 20 bbls. per day pumping, total depth 3,700 feet. Iotex Oil Co.'s No. 2 W. O. Alford, top sand 3,821 feet, initial production 90 bbls. in 50 minutes through open tubing, total depth 3,825 feet. Rodgers and others' No. 2 Joe Lee, top sand 3,624 feet, initial production 30 bbls. per hour through open tubing, total depth 3,634 feet.

Sinclair Prairie Oil Co.'s No. 44 W. P. Kinney, top sand 3,683 feet, initial production 30 bbls. in one-quarter hour through open tubing, total depth 3,692 feet; No. 45 W. P. Kinney, top sand 3,620 feet, initial production 40 bbls. in one-quarter hour through open tubing, total depth 3,634 feet. Skelly Oil Co.'s No. 4 Jones, top sand 3,783 feet, initial production 75 bbls. per hour through open tubing, total depth 3,798 feet. Lexena Oil Co.'s No. 5 J. Cox, top sand 3,643 feet, initial production 30 bbls. in 35 minutes through open tubing, total depth 3,726 feet. Spansco Oil Co.'s No. 5 W. P. Brett, top sand 3,702 feet, initial production 45 bbls. in one-half hour through open tubing, total depth 3,745 feet. Tide Water Oil Co.'s No. 7 Irion, top sand 3,660 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,680 feet. Tress Oil Co.'s No. 1 C. Ashby, top sand 3,618 feet, initial production 20 bbls. in three hours swabbing, total depth 3,686 feet. Grady Vaughn's No. 5 L. P. Thrash, top sand 3,755 feet, initial production 90 bbls. in 45 minutes through open tubing, total depth 3,770 feet.

Smith County

Mid-Kansas Oil & Gas Co.'s No. 19 J. H. Sharp, top sand 3,673 feet, initial production 76 bbls. per hour through 2-inch tubing choke, total depth 3,676 feet.

Upshur County

Humble Oil & Refining Co.'s No. 6 Edwards, top sand 3,605 feet, initial production 16 bbls. in one-quarter hour through open tubing, total depth 3,650 feet; No. 23 J. K. Edwards, top sand 3,582 feet, initial production 16 bbls. in one-quarter hour through open tubing, total depth 3,612 feet.

West Texas Fields

(Continued from Page 42)

with 1,000 gallons of acid, total depth 1,178½ feet; No. 9 Ikard, sandy lime 1,157 feet, initial production 175 bbls. treated with 1,000 gallons of acid, total depth 1,157 feet; No. 8 W. I. Pace, sandy lime 1,136-49 feet, initial production 155 bbls., treated with 1,000 gallons of acid, total depth 1,149 feet.

Harris and others' No. 1 Oldham, dry and abandoned, total depth 2,331 feet. King Royalty Co.'s No. 1 Andrews, oil sand 936-42 feet, initial production 20 bbls., total depth 942 feet. Jesse Lincoln's No. 5 Ray, oil sand 1,120-29 feet, initial production 1,000 bbls., total depth 1,129 feet. George L. Pace's No. 5 Arnold, lime 1,156-69 feet, treated with 1,000 gallons of acid, initial production 125 bbls., total depth 1,169 feet. Perkins and Cullum's No. 5 Abercrombie, dry and abandoned, total depth 1,329 feet; No. 3 Falls, sandy lime 1,146-64 feet, initial production 215 bbls., treated with 1,000 gallons of acid, total depth 1,164 feet. Wichita Production Co.'s No. 1 W. T. Coffield, sandy lime 1,157-68 feet, initial production 7 bbls., total depth 1,168 feet, treated with 1,000 gallons of acid.

Montague County

Lesh and McCall's No. 4 Cunningham, oil sand 864-74 feet, initial production 70 bbls., total depth 916 feet.

Clay County

W. D. Maple's No. 1 Kelley, dry and abandoned, total depth 840 feet. J. E. Keller's No. 1 W. F. George, oil sand 1,107-17 feet, initial production 6 bbls., total depth 1,117 feet. Metzner and other's No. 1 Lauella Thornberry, oil sand 334-40 feet, initial production 5 bbls., total depth 340 feet.

Jack County

F. H. E. Oil Co.'s No. 1 Gillespie, oil sand 511-22 feet, initial production 10 bbls., total depth 522 feet; No. 2 Gillespie, dry and abandoned, total depth, 530 feet. J. W. McMuse and others' No. 1 Brintmore, dry and abandoned, total depth 554 feet.

Wichita County

F. C. Baldwin's No. 8 Dobie, dry and abandoned, total depth 1,035 feet. Coleman and Coppack and others' No. 1 May, dry and abandoned, total depth 1,410 feet. Schlaffke and Blair's No. 8 Honaker, dry and abandoned, total depth 1,381 feet. S. H. Walton's No. 1 Cato, dry and abandoned, total depth 852 feet. S. H. Walton's No. 1 Gulf Tank Farm, dry and abandoned, total depth 708 feet.

Wilbarger County

W. B. Hamilton's No. 3 Waggoner, oil sand 1,271-93 feet, initial production 33 bbls., total depth 1,293 feet.

Young County

F. J. Albritton's No. 8 Gilmore, oil sand 565-80 feet, initial production 33 bbls., total depth 584 feet. F. Ard, Jr.'s No. 5 Belknap, dry and abandoned, total depth 810 feet. Baker and Camp's No. 1 Smith, oil sand 705-12 feet, initial production 30 bbls., total depth 712 feet. Brazelton Brothers' No. 12 Taack, dry and abandoned, total depth 755 feet. Cable Oil Co.'s No. 3 A. Williams, dry and abandoned, total depth 602 feet. W. R. Cooper and others' No. 1 Terrell, dry and abandoned, total depth 667 feet. F. H. E. Oil Co.'s No. 1 Jones, oil sand 509-10 feet, initial production 10 bbls., total depth 510 feet; No. 2 Jones, oil sand 502-12 feet, initial production 10 bbls., total depth 512 feet.

S. D. Glover's No. 4 Johnson, oil sand 512-22 feet, initial production 10 bbls., total depth 522 feet. Iron Mountain Oil Co.'s No. 6 Swain, oil sand 700-06 feet, initial production 20 bbls., total depth 706 feet; No. 24 Tatum, oil sand 647-58 feet, initial production 20 bbls., total depth 658 feet. L. A. Long's No. 2 Garvey, oil sand 756-58 feet, initial production 16 bbls., total depth 760 feet. Maer and Hamilton's No. 4 Jeffery, oil sand 810-20 feet, initial production 150 bbls., total depth 820 feet; No. 5 Jeffery, oil sand 802-18 feet, initial production 200 bbls., total depth 818 feet.

Petroleum Producers Co.'s No. 8 Belknap, oil sand 693-700 feet, initial production 33 bbls., total depth 700 feet. Petroleum Producers and Bridwell's No. 1 Jeffery, dry and abandoned 832 feet. T. G. Shaw and others' No. 3 Marshall, oil sand 884-95 feet, initial production 200 bbls., total depth 895 feet. Stucky Oil Co.'s No. 1 A. C. Watson, dry and abandoned, total depth 703 feet. Wheeler and Brashear's No. 6 Jeffery, oil sand 755-59 feet, initial production 150 bbls., total depth 759 feet. White and Duncan's No. 7 Smith, oil sand 717-25 feet, initial production 30 bbls., total depth 725 feet. Willis and Terrell's No. 1 Jones, dry and abandoned, total depth 702 feet. Worth Oil Co.'s No. 1 Garrett, Block No. 11, dry and abandoned, total depth 550 feet; No. 9 Snider, oil sand 575-85 feet, initial production 33 bbls., total depth 585 feet. Charles Knox' No. 4 Manning, oil sand 2,692-2,719 feet, initial production 200 bbls., total depth 2,721 feet. D. M. Knox' No. 1 Manning, dry and abandoned, total depth 3,254 feet.

COMPLETIONS IN RANGER

Brown County

Culberson Brothers' No. 1 T. J. Stewart, dry and abandoned, total depth 1,215 feet. W. D. Gullx' No. 1 A. Armstrong, pay 1,436-44 feet, initial production 5 bbls., total depth 1,501 feet, plugged back to 1,450 feet. R. C. McCarter's No. 1 L. W. McDonald, dry and abandoned, total depth 1,177 feet. M. L. Richards' No. 1 E. L. Cason, dry and abandoned, total depth 1,588 feet. Lewis Green's No. 1 M. W. Bull, dry and abandoned, total depth 1,305 feet; No. 1 F. E. Gordon, dry and abandoned, total depth 505 feet. S. B. Owens' No. 9 R. Lynch, oil sand 1,271-83 feet, initial production 25 bbls., total depth 1,283 feet.

Callahan County

Pary and others' No. 1 F. Scale, dry and abandoned, total depth 780 feet. Henry C. Samples' No. 1 D. L. Harp, dry and abandoned, total depth 400 feet. A. L. Spencer's No. 1 E. L. Finley, initial production 1,200,000 feet of gas, total depth 438 feet.

Coleman County

Jameson-Pollard-Forester's No. 1 Cannon, show of oil 1,612-17 feet, initial production 10 bbls., total depth 1,617 feet.

Eastland County

Arab Gasoline Corp.'s No. 1 C. Harrell, dry and abandoned, total depth 3,175 feet.

Shackelford County

Hawsley and Spencer and others' No. 1 Reynolds, sand 907-10½ feet, initial production 10 bbls., total depth 910 feet. Knight's No. 3 Jeter, show of oil 944-49 feet, initial production 180 bbls., total depth 949 feet. Poly Oil Corp. and others' No. 1 Spears, sand 1,707-11 feet, initial production 15 bbls., total depth 718 feet. Ray Shyrock's No. 1 Hickman, show of oil 696-87½ feet, initial production 5 bbls., total depth 697½ feet. W. F. Snebold's No. 2 Sedgwick, dry and abandoned, total depth 765 feet.

Taylor County

Dunnigan and others' No. 1 A. Hunter, show of oil 2,357-58 feet, initial production 50 bbls., total depth 2,358 feet.

COMPLETIONS IN WEST TEXAS

Ector County

Broderick and Calvert's No. 1 Cowden, top pay 4,145-50 feet, initial production after shot 214 bbls. of oil per day flowing through tubing, shot 200 quarts from 4,140-85 feet, and 40 quarts from 4,319-35 feet, total depth 4,338 feet.

Glasscock County

Tribal Oil Co.'s No. 4-B Edwards, top pay 2,134 feet, increase at 2,157 feet, treated with 1,000 gallons of acid, initial production 30 bbls. of oil per hour on proration gauge, total depth 2,159 feet.

Ward County

California Oil Co.'s No. 1 York, top pay 2,502-20 feet, initial production 427 bbls. of oil per day on proration gauge, total depth 2,525 feet. Thompson's No. 2-B Johnson, top pay 2,487-92 feet, initial production 173 bbls. of oil per day flowing through tubing, total depth 2,535 feet.

Fisher County

Condor Petroleum Co.'s No. 1 State, top lime 3,194 feet, initial production before treating with acid 75 bbls., initial production after treatment 20 bbls. per hour, total depth 3,210 feet. Cranfill & Reynolds' No. 3 Flannigan, top lime 3,080 feet, initial production 228 bbls. before treatment with acid, initial production after acid treatment 644 bbls., total depth 3,107 feet; No. 3 Willingham, top lime 3,105 feet, best pay 3,139-40 feet, before treating with acid initial production was 200 bbls., initial production after treatment was 1,044 bbls. swabbing, total depth 3,130 feet.

COMPLETIONS IN PANHANDLE

Carson County

Skelly Oil Co.'s No. 23 Schaffer, pay 3,050-98 feet, initial production 510 bbls. swabbing, total depth 3,098 feet.

Gray County

Denworth Oil Co.'s No. 1 Webb, total depth 2,600 feet, plugged back to 2,495 feet, pay 2,443-90 feet, initial production 75 bbls. Gerber Oil Co.'s No. 1 Stubbs, dry and abandoned, total depth 3,100 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Webb, total depth 2,548 feet, plugged back to 2,522 feet, pay 1,452-95 feet, initial production 150 bbls. Cambrian Oil Co.'s No. 2 Barrett, pay 3,090-3,222 feet, initial production 160 bbls. after shot, total depth 3,232 feet. Danciger Oil & Refining Co.'s No. 1 Cook-Faulkner (old well drilled deeper), increase in pay 2,990-3,025 feet, initial production 75 bbls. on pump, total depth 2,990 feet. Continental Oil Co.'s No. 7 Finley-Brown, abandoned, total depth 2,870 feet. Phillips Petroleum Co.'s No. 7 Jackson, pay 2,967-3,125 feet, initial production 757 bbls., total depth 3,126 feet; No. 6 Jackson (old well drilled deeper), increase in pay 2,894-2,980 feet, initial production 115 bbls., total depth 2,980 feet; No. 6 Jackson (old well drilled deeper), increase in pay 3,024-3,100 feet, initial production 140 bbls., total depth 3,100 feet. Skelly Oil Co.'s No. 5 Vicars, pay 3,210-83 feet, initial production 325 bbls., total depth 3,283 feet. Texas Co.'s No. 10-B Cook-Faulkner (old well drilled deeper), increase in pay 3,029-38 feet, initial production 180 bbls., total depth 3,038 feet.

Hutchinson County

D. Rubin's No. 2 fee, gas sand 2,280-2,814 feet, initial production 18,000,000 feet of gas, total depth 2,814 feet.

East Central Texas Wildcats

(Continued from Page 44)

Daniels Oil & Royalty Co.'s No. 1 T. F. Young, 750 varas from W line and 250 varas from S line of survey, L. Liggins Sur. ..... Spudding.

Hughes et al's No. 1 H. A. Shaw, 330 ft. out of NE cor. of H. A. Shaw 138-ac. tract, Simon Sanches Sur. No. 5 ..... Location.

Humble Oil & Refining Co.'s No. 1 Dieta Brothers, 1,000 ft. out of southerly SE cor. of 1,000-ac. tract, Simon Sanches Sur. No. 6 ..... Coring 5,466 ft.

GREGG COUNTY

G. T. Bankenship's No. 1 R. B. White, 100 ft. from S line and 100 ft. from W line of survey, M. D. Moore Sur. ..... S.D. 3,540 ft.

Elliott et al's No. 1 Benson, 175 ft. from S line and center E and W lines of tract, W. P. Chisum Sur. ..... Rig up.

J. D. Hall et al's No. 1 Mrs. Gladys Utsman, 5,859 ft. from N line and 6,980 ft. from W line of survey, M. V. Winkle Sur. ..... Waiting on cmt. to set; T.D. 3,598 ft.

Humble Oil & Refining Co.'s No. 1 Rogers Lacy, 2,050 ft. N and 330 ft. E of SW cor. of lease, N. Screws Sur. ..... Drlg. 1,987 ft.

Randall's No. 1 Williams, C of 1-acre tract, State Sur. ..... Waiting on cmt. to set; T.D. 3,566 ft.

Max Rubin's No. 1 Sam Burton, 330 ft. out of NW cor. of 100-ac. lease, D. Sanches Sur. ..... Location.

Paul T. Rutledge's No. 1 M. T. Cole, 1,081 ft. S and 272 ft. E of NE cor. of Tide Water's Lacy lease, M. T. Cole Sur. ..... Derrick.

Teton Oil Co.'s No. 1 E. Stell et al, 330 ft. from N line and 50 ft. from W line of 119.92-ac. tract, John Wilkerson Sur. ..... Location.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 105 varas S and 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur. ..... Derrick.

Lace Oil Co.'s No. 1 George Pace, 300 ft. from N line and 400 ft. from W line of survey, 3½ miles NE of Athens, James B. Atwood Sur. ..... Drlg. 3,700 ft.

HOPKINS COUNTY

Hager et al's No. 1 W. A. Irwin, 2,345 ft. from W line and 190 ft. from N line of survey, T. Belt Sur. ..... Location.

HUNT COUNTY

Meade and McKennie's No. 1 Love, 300 ft. from N line and 6,390 ft. from W line of 95-ac. tract, John Gillaky Sur. ..... Rig up.

H. O. Shawver et al's No. 1 J. H. Jones, 740 varas S of NE cor. and 75 varas from E line of tract, 6½ miles NE of Greenville, L. Ferguson Sur. ..... Drlg. 1,300 ft.

LEON COUNTY

Cooper et al's No. 1 W. H. Cozart, 1,000 ft. from SE cor. of 266-ac. tract in SW part of county, Thomas Gardner Sur. ..... Derrick.

Shell Petroleum Corp.'s No. 1 Beggs, center of 123.5-ac. tract, John Carter Sur. ..... Coring 6,072 ft.

E. L. Smith's No. 1 W. P. Simpson, 1,320 ft. from S and E lines of survey, Alfred Penn No. 693 Sur. ..... Derrick.

Standard Oil of Kansas' No. 1 A. W. Johnson, 466 ft. from NE line and 466 ft. from NW line of 100-ac. tract, Simon Sanches Sur. No. 7 ..... Location.

Sutton and Hawkins' No. 1 F. C. Wilson, 300 ft. out of NW cor. of Wilson 55-ac. tract, A. Ogden Sur. ..... Spudding.

LIMESTONE COUNTY

C. M. Joiner et al's No. 1 S. A. Knapp, 1,000 ft. from N and W lines of tract and survey, 1½ miles N of Falls County line, Luke Moore Sur. ..... Drlg. 260 ft.

Lone Star Gas Co.'s No. 3 Barron, 1,853 ft. from W line and 1,390 ft. from N line of survey, E. Mabrey Sur. ..... Location.

MORRIS COUNTY

Buchanan et al's No. 2 Staggers, 150 ft. from W line and 600 ft. from S line of survey, 3 miles NW of Dangerfield, John D. Nelson Sur. ..... Derrick.

NAVARRO COUNTY

H. T. Brasselton et al's No. 1 H. L. Albritton, 150 ft. out of NW cor. of 100-ac. tract, 1½ miles E of Roane ..... Drlg. 1,025 ft.

Syam Oil Co.'s No. 1 W. B. Coates, 150 ft. out of SE cor. of 59-ac. tract, McKinney & Williams Sur. ..... S.D. 3,995 ft.

RAINS COUNTY

J. W. Hallsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur. ..... Derrick.

RUSK COUNTY

East Texas Oil & Refining Co.'s No. 1 W. Starr, 5,560 ft. from N line and 330 ft. from W line of survey, Daniel Clark Sur. ..... Drlg. 3,000 ft.

Merrick et al's No. 1 D. C. Joiner, 6,500 ft. from N line and 2,780 ft. from W line of survey, F. Cordova Sur. ..... Drlg. 2,605 ft.

Pansy Oil Co.'s No. 1 W. H. Frederick, 600 ft. from N line and 4,800 ft. from W line of survey, Ximenes Sur. ..... Drlg. 3,522 ft.

Rodgers et al's No. 1 W. B. Perry, 150 ft. from N line and center of E and W lines of lease, W. P. Perry Sur. ..... Waiting on cmt. to set; T.D. 3,727 ft.

SMITH COUNTY

Barney Cockburn's No. 1 J. Jackson and Atterberry, 3,290 ft. from N line and 1,590 ft. from E line of survey, E. Daniels Sur. ..... 40 per cent salt water; failed to flow; T.D. 3,838 ft.

UPSHUR COUNTY

Cranfill & Reynolds' No. 1 C. T. Crosby, 660 ft. from S and E lines of 190-ac. tract, 4,000 ft. E of Cranfill & Reynolds' No. 1 Rash, P. L. Clower Sur. ..... Drlg. 3,768 ft.

C. H. Lyons et al's No. 1 E. H. Crosbie, 330 ft. out of SE cor. of lease and survey, C. Witcher Sur. ..... Drlg. 3,030 ft.

Mansell et al's No. 1 C. B. Mackey, 2,480 ft. from N line and 3,340 ft. from E line of survey, J. M. Pineda Sur. ..... Rig up.

VAN ZANDT COUNTY

Gray and Williams et al's No. 1 Paschall, 590 ft. from E line and 300 ft. from N line of 39-ac. tract, 5 miles NW of Jackson, D. T'Barbo Sur. ..... Set surface csg. 88 ft.

J. O. Griffith's No. 1 Bruce & Gibbard, 1,000 ft. from S line and 330 ft. from E line of 134-ac. tract, G. Martinez Sur. ..... Spudding.

Humble Oil & Refining Co.'s No. 1 J. D. Listenbee, 150 ft. out of SW cor. of W 15 acres of 30-ac. tract, John Goodman Sur. ..... Drlg. 505 ft.

Humble Oil & Refining Co.'s No. 1 S. R. Ray, 300 ft. S and 150 ft. W of J. D. Listenbee 30-ac. lease in Nacogdoches County School Lands Sur. ..... Location.

Pure Oil Co.'s No. 6 A. W. Ellison, 635 ft. N of S line and 300 ft. W of E line of A. W. Ellison 67-acre tract, James Rose Sur. ..... Drlg. 2,656 ft.

Ray Drilling Co.'s No. 1 J. W. Mallery, 1,150 ft. from S line and 150 ft. from W line of 317-ac. tract, John Walling Sur. ..... Derrick.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobbett, 660 ft. from S line and 330 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. ..... S.D. 4,393 ft.

Wildcat Operations in West Texas

(Continued from Page 42)

CROCKETT COUNTY

Porter Rankin's No. 1 Todd, 1,500 ft. from N line and 3,020 ft. from E line of Sec. 68, Blk. UV, G.C.&S.F. Sur. ..... Location.

ECTOR COUNTY

Atlantic Oil & Prod. Co.'s No. 1 Holt, 1,980 ft. from N line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur. ..... Drlg. 1,425 ft.

Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur. ..... Location.

Atlantic Oil & Prod. Co.'s No. 1 Jones, 2,310 ft. from N line and 440 ft. from W line of Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur. ..... Drlg. 2,175 ft.

Broderick & Calvert et al's No. 1 E. F. Cowden, 2,340 ft. from E line, 330 ft. from S line of Sec. 35, Blk. 44, Twp. 2s, T.&P. Sur. ..... Well shut in; T.D. 4,338 ft.

Broderick & Calvert's No. 1 Cowden, 1,980 ft. from S line and 1,980 ft. from N line of Sec. 16, Blk. 43, Twp. 2s, T.&P. Sur. ..... Derrick.

Continental Oil Co.'s No. 1 Holt, 660 ft. from W and 1,980 ft. from S line of Sec. 20, Blk. A, P.S.L. Sur. ... Location.

Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ..... Drlg. 3,548 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location.

Skelly Oil Co.'s No. 1 Addis, 990 ft. from N line and 2,200 ft. from E line of Sec. 35, Blk. 43, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 3,205 ft.

Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s ..... Drlg. 3,700 ft.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur. ..... Moving in material and S.D.

Merry Bros. and Perini's No. 1 J. J. Steele, 330 ft. E and 150 ft. N of SW cor. NE Sec. 210, B.B.B.&C. R.R. Sur. ..... Drlg. 827 ft.

Mid-Continent Petroleum Corp.'s No. 2 Pardue, 672 ft. from N and 330 ft. from E line of Sec. 202, B.B.B. &C. Sur., Blk. 1 ..... Drlg. 910 ft.

Roeser and Hill's No. 1 Hill, 661 ft. from N and 330 ft. from E line of NW of Sec. 193, B.B.B.&C. Sur., Blk. 1 ..... Lost tools 1,100 ft.

Southern's No. 1 King, 660 ft. from N and 330 ft. from W line of SW Sec. 193, B.B.B.&C. Sur. ..... S.D. 1,150 ft.

Southern Oil Co.'s No. 1-A Pardue, 2,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.B.&C. Sur. ..... T.D. 2,722 ft.; drlg. by tools.

Texas Co.'s No. 3 T. A. Jean, 165 ft. N of S line and 330 ft. E of W line of E half Sec. 201, Blk. 1, B.B.B.&C.Ry. Sur. ..... T.D. 3,108 ft.; to treat with acid; elev. 1,791 ft.

Texas-Inland Oil Co.'s No. 1 First National Bank of Hamlin, 590 ft. N and 330 ft. W of SE cor. of W half NE Sec. 191, B.B.B.&C.R.R. Sur. ..... S.D. for csg. 1,260 ft.

GAINES COUNTY

R. H. Gill et al's No. 1 Crews, 1,320 ft. from S and 1,320 ft. from W line of Sec. 9, Blk. A-20, P.S.L. Sur... Derrick up.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 1 Gilbreath, 330 ft. from N line and 1,980 ft. from E line of Sec. 24, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 125 ft.

Heyer-Zusack's No. 1 Oxsheer, 1,650 ft. from N line and 1,650 ft. from W line of Sec. 8, Blk. 34, Twp. 2s, T.&P. Sur. ..... S.D. 510 ft.

Humble Oil & Ref. Co.'s No. 3 Arrington, 330 ft. from N line and 330 ft. from E line of Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 2,093 ft.

Lawson et al's No. 1-C Edwards, 1,259 ft. from E and 1,323 ft. from S line of Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. ..... Location.

Noble Drlg. Co.'s No. 3 Baker, 330 ft. from N line and 330 ft. from E line of Sec. 32, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,770 ft.

Simms Oil Co.'s No. 3-A Coffee, 330 ft. from S line and 1,650 ft. from W line of Sec. 15, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Running csg. 150 ft.

Tribal Oil Co.'s No. 5-B Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 6, Blk. 33, Twp. 2s, T.&P. Sur. ..... Treating with acid; T.D. 2,160 ft.

HOWARD COUNTY

Group No. 1 Oil Co. and Continental Oil Co., 2,640 ft. from N line and 1,980 ft. from E line of Sec. 5, T.&P.R.R. Sur., Blk. 33 ..... Swabbing and testing 25 bbls. of oil per hour on two-hour test; T.D. 2,360 ft.

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Location.

Merrick & Lamb's No. 9 Chalk, 330 ft. from E line and 330 ft. from S line of lease, Sec. 125, Blk. 29, W.&N.W. Sur. ..... Drlg. 75 ft.

Plymouth Oil Co.'s No. 9 Kloh et al, 2,640 ft. from the N. line and 1,980 ft. from W line of Sec. 5, Blk. 33, T.&P.R.R. Sur., Twp. 2s ..... Drlg. 2,145 ft.

Schermerhorn Oil Co.'s No. 1 Kloh, Sec. 2, Blk. 33, Twp. 2s, T.&P. Sur. ..... To test; T.D. 2,500 ft.

Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s ..... Ready to spud.

Sinclair Prairie Oil Co.'s No. 9 Dodge, 310 ft. from N line and 1,635 ft. from W line of Sec. 11, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... Running csg. 2,337 ft.

Southern Oil Co.'s No. 1 Denman, 2,310 ft. from N line and 330 ft. from W line of Sec. 10, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... S.D. 480 ft.

Ungren & Frazier's No. 1 Davis, 330 ft. from S line and 990 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 2,045 ft.

IRION COUNTY

Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur... Drlg. 150 ft.

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Drlg. 2,320 ft.

Jack Roberts' No. 2 Swann, 2,300 ft. from N and 1,650 ft. W of SE cor. of L. Milley Sur. ..... Spudding.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 82, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 32, H.&T.C. Sur. .... Location

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 82, Blk. 32, H.&T.C. Sur. .... Location

R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 82, Blk. 32, H.&T.C. Sur. .... Location

Oppenauer Drlg. Co.'s No. 1-C Allen, 330 ft. from NW line, 2,310 ft. from SW line, Sec. 90, Blk. 1, W.& NW Sur. ..... Drlg. 2,585 ft.

Oppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 330 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigging up standard tools

Sinclair Prairie Oil Co.'s No. 1 Allen, 330 ft. from SE lines and 990 ft. from SW lines of Sec. 4, Blk. 2, W.&N.W. Sur. ..... Drlg. 310 ft.

PECOS COUNTY

Mae T. Anderson's No. 1 E. M. Roots Estate, 2,500 ft. from the N line and 330 ft. from W line of Sec. 11, G.C.&S.F.R.R. Sur., Blk. 118 ..... Drlg. 1,361 ft.

M. E. Black et al's No. 1 E. E. Powell et al, 150 ft. from NE line and 150 ft. from SE line of Sec. 102, H.&G.M.R.R. Sur., Blk. 10 ..... Drlg. 755 ft.

California Oil Co.'s No. 1 Reid, 1,087 ft. S and 495 ft. W from the NW cor. of Sec. 61, Blk. 1, I.&G.N. Sur. ..... Drlg. 150 ft.

California Oil Co.'s No. 23 Yates, 315 ft. W of No. 1 Reid, Sec. 34, Blk. 194, G.C.&S.F. Sur. ..... Bldg. road.

Culberson Bros.'s No. 15-B Monroe, 725 ft. from N line and 1,350 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Easter & McCurdy's No. 3-A Shell-Smith, 875 ft. N of Shell Pet. Corp.'s No. 7-A Smith, Sec. 27, Blk. 194, G.C.&S.F. Sur. ..... Fishing 600 ft.

Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur. ... Drlg. 6,121 ft.

Kemper & Kimberlin et al's No. 2 D. B. Gregg et al, 1,490 ft. from NW line and 1,470 ft. from NE line of Sec. 101, H.&G.M.R.R. Co. Sur., Blk. 10 ..... Drlg. 75 ft.

Mid-Kansas Oil & Gas Co.'s No. 10 Smith, 150 ft. from N line and 250 ft. from E line of Sec. 31, Blk. 194, G.C.&S.F. Sur. ..... Location.

Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, G. C.&S.F. Sur., Blk. 194 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 21 Smith-Taylor, 1,760 ft. from S line and 215 ft. W of northerly NW cor. of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 1,435 ft.

Mid-Kansas Oil & Gas Co.'s No. 22 Smith-Taylor, 250 ft. from S line and 324 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Fishing 1,374 ft.

Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 250 ft. W of S half of Turner Tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 1,313 ft. from N line and 250 ft. from W line of Turner Sur. No. 2.. Rigging up machine.

Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 250 ft. from N line and 250 ft. from W line of Turner Sur. No. 3.. Location.

Mid-Kansas Oil & Gas Co.'s No. 3 Turner, 739 ft. from N and 209 ft. from W line of Turner Sur. No. 4 .... Location.

Mid-Kansas Oil & Gas Co.'s No. 3 Fred Turner, 535 ft. from S line and 500 ft. from W line of Tract No. 3.. Bldg. road.

Mid-Kansas Oil & Gas Co.'s No. 6 Fred Turner, 250 ft. from W line and 625 ft. from S line of Tract No. 1.. Location.

Mid-Kansas Oil & Gas Co.'s No. 7 Turner, 395 ft. from S line and 344 ft. from E line of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 11-E Yates, 481 ft. from N line and 250 ft. from E line of Sec. 32, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 695 ft.

Mid-Kansas Oil & Gas Co.'s No. 12-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. W of SE cor. of S half of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 36-A Yates, 250 ft. N and 324 ft. W from the NW cor. of Turner Tract No. 2 in Sec. 34½, I.G. Yates Sur. ..... Clearing location.

Mid-Kansas Oil & Gas Co.'s No. 37-A Yates, 250 ft. N and 321 ft. E of NW cor. of the Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Drlg. 660 ft.

Mid-Kansas Oil & Gas Co.'s No. 38-A Yates, 250 ft. E and 205 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 250 ft. W of the NW cor. of Turner Tract No. 4 in Sec. 34½, I. G. Yates Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of S half of Turner Tract No. 1 ..... Cellar.

Mid-Kansas Oil & Gas Co.'s No. 35-A, 250 ft. from N line and 324 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in I. G. Yates Sur., A-8195. ..... Drlg. 1,342 ft.; flowed 1,198 bbls. of oil in 24 hours.

Sproles & O'Neal's (rec.) No. 2-A Fred Turner, Jr., 198 ft. from N line, 300 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.

Sproles & O'Neal's (rec.) No. 4-A Fred Turner, Jr., 1,640 ft. from N line, 350 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Fishing 1,225 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 5-C University ..... Drill pipe stuck 8,383 ft.

Big Lake Oil Co.'s No. 12-C University, 938 ft. from N, 740 ft. from E line of Sec. 12, Blk. 2, University land ..... Drlg. 8,694 ft.

Big Lake Oil Co.'s No. 24-C University, 725 ft. from S line and 2,730 ft. from E line of Sec. 25, Blk. 9, University Land Sur. ..... Drlg. 3,262 ft.

Big Lake Oil Co.'s No. 15-C University, 660 ft. from E line and 660 ft. from S line of Sec. 25, Blk. 9, University Land Sur. ..... Rig up.

Continental Oil Co.'s No. 9-B University, 1,900 ft. from S line, 1,895 ft. W of E line of Sec. 39, Blk. 9, University Land Sur ..... Recemented csg. 8,700 ft.

Group Oil Co.'s No. 16-B University, 1,900 ft. from N and 1,895 ft. from E line, Sec. 36, Blk. 9 ..... Cellar.

Snyder et al's No. 1 Hughes, 1,320 ft. from N and W lines of Sec. 14, G.C.&S.F. Sur. ..... Location.

RUNNELS COUNTY

Agnew et al's No. 1 H. B. Fowler, 150 ft. S and W of NE cor. of Sec. 23, N. Travis Sur. No. 533 ..... Drlg. 2,260 ft.

Golden Pet. Co.'s No. 2 McMillan, Subdv. 23, N. Travis Sur. ..... S.D. 2,100 ft.

B. C. Mann et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 8, Norvel Travis Sur. No. 533 ..... Drlg. 2,385 ft.

Mann et al's No. 1 Wade, 330 ft. from N and 330 ft. from E of NW cor. of E 75 acres of S 308.6 acres, Blk. 10, N. Travis Sur. ..... Drlg. 2,235 ft.

Dick Thomas' No. 1 Wade, 1,625 ft. from N and 2,034 ft. W of SE cor. of Lot 10, N. Travis Sur. ..... Spudded.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. ... Drlg. 8,086 ft.

WARD COUNTY

Abell Brothers' No. 1 Archenhold et al, 1,310 ft. from NE line and 330 ft. from SE line of Sec. 23, H.&T.C Sur., Blk. 5 ..... Drlg. 2,776 ft.; flowed 70 bbls. by heads every 3 days.

Atlantic Oil & Prod. Co.'s No. 2 Blank-Camp, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 14, Blk. 24, H.&T.C. Sur. ..... Drlg. 2,297 ft.

Atlantic Oil & Prod. Co.'s No. 9 Johnson, 330 ft. from NE line and 990 ft. from NW line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... T.D. 1,491 ft.

Atlantic Oil & Prod. Co.'s No. 10 Johnson, 990 ft. from NE line and 330 ft. from NW line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Location.

Atlantic Oil & Prod. Co.'s No. 11 Johnson, 2,310 ft. from NE line and 1,650 ft. from SE line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Drlg. 2,542 ft.

Atlantic Oil & Prod. Co.'s No. 12 Johnson, 990 ft. from SE line and 990 ft. from NE line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Material on ground.

Atlantic Oil & Prod. Co.'s No. 13 Johnson, 330 ft. from NE line and 330 ft. from SE line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Location.

Atlantic Oil & Prod. Co.'s No. 14 Johnson, 330 ft. from NE line and 2,310 ft. from NW line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Drlg. 2,207 ft.

Atlantic Oil & Prod. Co.'s No. 15 Johnson, 330 ft. from SE line and 1,650 ft. from NE line of Sec. 9, Blk. 24, H.&T.C. Sur. ..... Location.

George Bentley et al's No. 1 A. Emory, 1,836 ft. from NE line and 2,310 ft. from NW line of Sec. 26, Blk. 5, H.&T.C. Sur. ..... T.D. 2,301 ft.

California Oil Co.'s No. 1 Durgin, 990 ft. from SE line and 330 ft. from SW line of Sec. 15, Blk. 34, H.&T.C. Sur. ..... S.D. 1,590 ft.

California Oil Co.'s No. 1 J. F. York, 330 ft. from NW line and 330 ft. from SW line of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.

California Oil Co.'s No. 2 J. F. York, 2,982 ft. from SW and 1,650 ft. from NW cor. of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.

Eastland Oil Co.'s No. 2 Johnson, 1,980 ft. from SE line and 1,980 ft. from SW line of Sec. 24, Blk. 34, H.&T.C. Sur. ..... Trying to kill gas; T.D. 2,450 ft.

Gulf Prod. Co.'s No. 23 Hutchings, 990 ft. from N line and 330 ft. from W line of Sec. 4, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 575 ft.

Gulf Prod. Co.'s No. 24 Hutchings, 1,549 ft. from N line and 440 ft. from W line of Sec. 7, Blk. O, G.&M.M. B.&A. Sur. ..... Drlg. 582 ft.

Gulf Prod. Co.'s No. 27 O'Brien, 990 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&M.M.B.&A. Sur. ..... Flowed 291 bbls. of oil in 24 hrs.; T.D. 2,665 ft.

Gulf Prod. Co.'s No. 38 O'Brien, 990 ft. from S line and 990 ft. from E line of Sec. 16, Blk. F, G.&M.M. B.&A. Sur. ..... Machine burned; rigging up new machine; T.D. 1,675 ft.

Gulf Prod. Co.'s No. 39 O'Brien, 990 ft. from N line and 990 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Spudding.

Gulf Prod. Co.'s No. 40 O'Brien, 1,650 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Bldg. derrick.

Humble Oil & Ref. Co.'s No. 1 University, 990 ft. from N line and 440 ft. from E line of Sec. 2, Blk. 16, University Sur. ..... Drlg. 915 ft.

Rector-Plains' No. 1 Lee Monroe, 1,320 ft. from SW and 330 ft. from SE Sec. 12, J. N. Rose Sur. ..... S.D. 4,702 ft.; contract completed.

Simms Oil Co.'s No. 1 Massey, 2,310 ft. from SW line and 2,310 ft. from SE line of Sec. 14, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.

Sinclair Prairie Oil Co.'s No. 3 H. Archenhold, 330 ft. from NE lines and 330 ft. from SE lines of SW of Sec. 23, H.&T.C. Sur., Blk. 5 ..... Drlg. 2,775 ft.

Sinclair Prairie Oil Co.'s No. 4 Archenhold, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Drlg. 660 ft.

W. B. Smith's No. 1 Wallis, 3,636 ft. from NE line and 157 ft. from SE line of Sec. 19, Blk. 34, H.&T.C. Sur... Location.

S. A. Thompson's No. 1 Johnson, 1,650 ft. from SW line and 2,310 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 1 Scarborough, 1,650 ft. from N line and 330 ft. from W line of Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. 300 ft.

Sinclair Prairie Oil Co.'s No. 3 W. F. Scarborough, 1,650 ft. from E line and 1,990 ft. from N line of Sec. 1, Blk. 17, P.S.L. Sur. ..... Drlg. 1,215 ft.

Wildcat Operations in Texas Panhandle

Week Ending December 4

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Reiger et al's No. 1 Foster, 330 ft. from N and E lines of SW Sec. 93, Blk. 7, I.&G.N.R.R. Sur.	Drlg. 1,445 ft.
Skelly Oil Co.'s No. 25 (West) Schaffer, 1,320 ft. from S line, 2,200 ft. from W line of Sec. 87, Blk. 4, I.&G.N. Sur.	Bldg. rig.

GRAY COUNTY

Anderson & Bean's No. 3 J. C. Vollmert, 330 ft. from S line, 330 ft. from E line, SW Sec. 140, I.&G.N. Sur., Blk. 3	Cellar.
Chism et al's No. 1 J. M. Carpenter, 330 ft. from N line, 330 ft. from E line of SE Sec. 37, H.&G.N. Sur., Blk. 25	T.P. 2,610-35 ft.; S.D. to lower tubing.
Dyke Oil Co.'s No. 1 Saunders, NW cor. 8½ NW Sec. 3, Blk. 1, B.S.&F. Sur.	Location.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines of 8½ Sec. 2, Blk. M-21, T.C.R.R. Sur...	Location.
Hencron et al's No. 1 Husselby, 330 ft. S and E, SW SW Sec. 11, Blk. A-9, H.&G.N. Sur.	Rig.
Masda-Shell's No. 4 Coombs-Worley, 990 ft. from N line, 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur.	Rig.
Phillips Pet. Co.'s No. 1 Benton, 360 ft. N, 345 ft. W from E lines of W½ E½ Sec. 43, Blk. 3, I.&G.N. R.R. Sur.	C.O.; T.D. 3,258 ft.
Skelly Oil Co.'s No. 1-B L. H. Webb, 745 ft. from E line, 540 ft. from S line of NE. Sec. 43, H.&G.N. Sur., Blk. 25	Rig up.
Skelly Oil Co.'s No. 7 Vicars, 1,320 ft. from N line, 330 ft. from W line of E½ NW Sec. 127, Blk. 3, I.&G.N. Sur.	Location.
Skelly Oil Co.'s No. 4 Webb, 330 ft. from N line, 330 ft. from E line, Sec. 16, Blk. 25, H.&G.N. Sur.	Bldg. rig.
Southern Pet. Expltn. Co.'s No. 5 McConnell, 330 ft. from N, 990 ft. from W lines of NW Sec. 174, Blk. 3, I.&G.N.R.R. Sur.	T.D. 3,296 ft.; 1,400 ft. oil in hole.
Sun Oil Co.'s No. 2-B Combs-Worley, 340 ft. from S line, 990 ft. from E line of SW of Sec. 34, I.&G. N. Sur., Blk. 3	Shut in 2,936 ft.
Texas Co.'s No. 11 Cook-Faulkner, 1,310 ft. from W line, 1,148 ft. from N line of W 172 acres of Sec. 29, Blk. 2-B, H.&G.N. Sur.	Drlg. 800 ft.
Vulcan Oil Co.'s No. 1 M. H. Kinard, 330 ft. from N line, 330 ft. from W line, SW Sec. 41, H.&G.N. Sur., Blk. 25	Drlg. 1,350 ft.
F. H. Yealy's No. 2 Crank, 960 ft. from N and E lines of N 160 acres of W 400 acres of Sec. 163, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 2,710 ft.

HUTCHINSON COUNTY

Stanolind O. & G. Co.'s No. 2-C Ware, 330 ft. from S line, 330 ft. from E line, Sec. 30, Blk. M-21, T.C. R.R. Sur.	Moving in.

WHEELER COUNTY

H. R. Anderson's No. 1 R. L. Harian, 330 ft. from N line, 330 ft. from E line of NW Sec. 49, H.&G.N. Sur., Blk. 24	Cellar.

Three Producers Completed in the Many Area; Converse Most Active in North Louisiana

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Dec. 4. — The Many area on the eastern flank of the Zwolle Field reported the only three producing wells completed in the North Louisiana district, and for the first time in several months took the lead in this respect from Converse, a newer chalk rock field 15 miles to the northwest. An unusual circumstance for this area was that all three completions were flowing wells with a good gas pressure. Pelican Natural Gas Co.'s No. 25 Louisiana Long Leaf Lumber Co., Section 31-8-11, set 6-inch casing at 2,242 feet and bailed dry at 2,336 and 2,600 feet. After treating with acid, the well came in flowing 409 bbls. daily from the latter depth. The same company's No. 10 Sabine Lumber Co., Section 7-7-11, set 7-inch casing at 2,308 feet which collapsed after drilling plug with a flow of 10,000,000 feet of gas. A string of 4½-inch casing was set at 1,400 feet with packer and the well completed flowing an estimated 500 bbls. of pipe line oil from a total depth of 2,315 feet. To the west of the latter well Creighton Oil Co.'s No. 1 Bowman-Hicks Lumber Co., Section 2-7-12, had an estimated flow of 1,000,000 feet of gas and 75 bbls. of oil from 2,302 feet.

NORTH LOUISIANA

Hope Production Co.'s No. 2 Cole, Section 44-20-4e, in the Ouachita Parish area of the old Monroe gas field, gauged 5,240,000 feet of dry gas with 750 pounds rock pressure from 2,148 feet. In the Bethany district of Caddo Parish, Calatex Oil & Gas Co.'s No. 1 Taylor, Section 34-17-16, tested a small show of gas at 2,892 feet, was deepened and abandoned in salt water at 2,992 feet. The other completion in North Louisiana was Ben F. Smith's No. 1 Lucius, Section 4-5-12, Sabine Parish, abandoned as dry at 3,147 feet.

United Gas Public Service Co. succeeded in killing its No. 1 Skannell unit, Section 13-17-12, in the Sligo Field of Bossier Parish, which blew in wild with the drill stem in the hole from a total depth of 3,220 feet. Due to the excessive amount of baroid used in checking the flow, the drill stem stuck and was twisted off near the casing seat at 2,666 feet. As soon as the hole is clean, a core will be taken from the bottom which will probably determine whether a commercial gasser will be made from the present depth or the anticipated deep test drilled to completion. In the northwestern part of the same parish, McKinney & Stewart's No. 1 Nattin, Section 22-22-14, is drilling at 950 feet. In Claiborne Parish, near the old Haynesville Field, the Haynesville Partnership's No. 1 Anna Taylor, Section 11-23-8, set 10-inch casing at 275 feet and is drilling at 1,500 feet. This is the fourth deep test to the Trinity horizon to be drilled on the flank of this area within the past few years, and shows of oil and gas developed in the previous tests lead the operators to believe that the present one will be successful. Gulf Refining Co., since continuing operations on its core test, No. 1 Bridgeman, Section 20-19-8, is still experiencing cavity trouble and losing returns. Very little hole has been made since starting up from 1,374 feet, and cotton seed hulls followed with heavy mud has been constantly pumped into the hole in an effort to fill the cavity. In Red River Parish, H. M. Jones is drilling at 2,200 feet on his No. 1 Sample in Section 10-14-11, and on the Conroe-Jackson trend in Vernon Parish, Smith-Burton & Kelly's No. 1 Fullerton Mineral Co., Section 32-1n-5w, is coring in the Cockfield at 5,098 feet. A new test in Winn Parish, J. L. Pitts' No. 1 Milan & Gatlin, Section 28-13-3, is temporarily shut down at 570 feet.

New locations dwindled to a total of six in the North Louisiana district, four of which were in the Converse Field, one in the gas area of Ouachita Parish and one wildcat in Catahoula Parish. In the latter, T. R. Hincy is rigging up on his No. 1 Millsaps in Section 32-9-6e. The Converse area is by far the most active in this district with a total of 44 locations, derricks or active rigs, most of which are actively drilling. There are now 23 wells in the field with a combined daily production last week of 990 bbls. Production comes from the chalk from an average depth of 1,500 to 1,950 feet.

ARKANSAS

As predicted a few weeks ago, the Miller County area near Texarkana is showing new activity. Three new locations have been staked recently, and several wells, shut down for a period, are arranging to resume drilling. C. E. Murdock has taken over No. 1 Smith, Section 33-15-26, formerly operated as Baker & McMurray, and is coring at 2,808 feet. The latter operators had been shut down since the first of this year with surface casing set at 210 feet. In the same Section, Texarkana Oil Corp. is rigging up on its No. 2 E. L. Beck, and Lee Timberlake has started two new operations in the same vicinity, Section 33-15-26. His No. 1 B. F. Smith is rigging up, and a derrick pattern is on the ground for his No. 1 E. L. Beck. Black Diamond Oil Co.'s No. 1 Miller Land & Lumber Co., Section 29-18-27, with the old total depth at 1,835 feet, has been making new hole from 1,300 feet and is now drilling at 1,690 feet. Duluth-Arkansas Oil Co.'s No. 2 Beck, Section 34-15-26, is waiting on cement to set after recementing 6-inch at 2,804 feet. In Columbia County, C. W. Alworth and others' No. 1 W. D. King, Section 16-17-20, is drilling in lime and lignite at 2,891 feet, and in the same county O. F. Whittaker's No. 1 Garney, Section 11-15-20, is waiting on cement to set on 6-inch casing at 2,089 feet. The operators report 3 feet of sand cored in this well from 2,090-93 feet, the latter the total depth. A. H. Bagnell's No. 1 Trottner & Rhinehart, Section 2,13-26, Hempstead County, has set 8-inch casing at 885 feet with a corrected total depth of 945 feet. In Conway County, Southern Union Gas Co. has spudded in to 60 feet on its No. 1 Feldman, Section 6-6-17, and the test is temporarily shut down for water. George W. Harper is again testing in the Nacatoch at 1,198 feet on his No. 2 Bodcaw, Section 16-15-22, Lafayette County, and in Lonoke County Joe G. Strahan is drilling at 820 feet on his No. 1 Hardin, Section 18-25-7w.

Ouachita County had the only completion in South Arkansas, although three locations or derricks were abandoned. J. D. Reynolds' No. 1 Snow Hill Baptist Church, Section 28-15-15, was a 15-bbl. pumper from 2,040 feet. In DeSha County, T. J. O'Hara's No. 1 Martin, Section 3-8-12, will not be drilled and was abandoned at 140 feet. A number of new operations are listed in three different counties: Ouachita, J. E. Crosbie's No. 1 C. Primm, Section 23-15-16, set 10-inch casing at 103 feet and drilling at 1,150 feet; Poinsett County, Arkansas State Oil & Gas Co.'s No. 1 fee, Section 13-11-3e, set 10-inch casing at 200 feet and drilling at 550 feet in shale; Union County, D. S. Brooks' No. 1 Murphy Land Co., Section 34-19-18, moving in rig. In the same county two new locations were staked during the past week: Sam M. Richardson & Co.'s No. 1 J. P. Hammond, Section 19-17-15, is rigging up, and E. R. Henderson is moving in rig on No. 1 Vines in Section 29-18-14.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BIENVILLE PARISH

Company, well, farm name, section and block— Remarks:

Poole & Johnson's No. 1 H. E. Suddith, 1,170 ft. E and S, C Sec. 28-14-1e ..... Derrick.

BOSSIER PARISH

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 1,620 ft. S, NE cor. Sec. 22-22-14 ..... Drlg. 950 ft.

C. E. Reid, tr.'s No. 1 Dotys, 730 ft. S, 618 ft. W, NE SE Sec. 7-16-11 ..... Set 10-in. 100 ft.; drlg. 235 ft.

CADDO PARISH

R. E. Davidson et al's No. 1 DeWitsey MacMillan, 500 ft. N, 330 ft. E, SW cor. Lot 16, Sec. 32-16-13 ..... S.D. 1,024 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. Sec. 4-14-16 ..... S.D. 1,154 ft.

CALDWELL PARISH

Hartley et al's No. 1 Taylor, most southeasterly cor. Sec. 42-14-4e ..... Derrick.

Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 200 ft. W, SE cor. NW NE Sec. 18-11-3e ..... S.D. for rig repair 1,762 ft.

CATAHOULA PARISH

T. R. Hincey's No. 1 Millsaps, Sec. 32-9-6e ..... Rigging up.

DE SOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-12 ..... S.D. 3,600 ft.

Gaskill et al's No. 1 Jim Guy, 200 ft. N, 300 ft. W, SE cor. Sec. 3-11-13 ..... Drlg. 725 ft.

Gravel Point Synd.'s No. 1 Guy, 200 ft. N and E, SW cor. Sec. 4-14-12 ..... Drlg. 2,460 ft.

Hirschfield-Bailey Interests' No. 1 Mickle, 660 ft. N and E, SW cor. SE Sec. 7-13-12 ..... S.D. 1,775 ft.; csg. collapsed.

Geo. M. LeGrand's No. 1 Faris, 330 ft. S and W, NE cor. SE Sec. 19-11-15 ..... Set 6⅝-in. 1,440 ft.

D. H. Sebastian, Jr.'s No. 1 W. H. Hill et al, 200 ft. S and E, C Sec. 3-10-13 ..... Rigging up.

A. F. Tarver's No. 1 Barnhart, 330 ft. N and W, SE cor. NE Sec. 16-15-13 ..... Drlg. 1,520 ft.

GRANT PARISH

L. L. Lindsey et al's No. 1 Edenborn, 250 ft. E, 150 ft. N, SW cor. SE SE Sec. 13-7-4 ..... Reaming 1,080 ft.

JACKSON PARISH

A. C. Thomas' No. 1 Johns, 330 ft. N and W, SE cor. NE NE Sec. 25-1s-3 ..... S.D. 2,055 ft.

NATCHITOCHES PARISH

Geo. R. Stevens' No. 1 Clarke-Boyce Lbr. Co., 330 ft. N and W, SE cor. Sec. 10-5n-6w ..... Rigging up.

J. B. Storey, tr.'s No. 1 Page est., NE cor. SE NW Sec. 18-3-9 ..... S.D. 40 ft.

SABINE PARISH

Frank R. Foster, Inc.'s No. 1 D. E. Stephens, 330 ft. S and E, NW cor. SE NW Sec. 17-9-11 ..... S.D. 3,166 ft.

CONVERSE DISTRICT

Arrock Oil Co.'s No. 1 Hewitt, 330 ft. N and E, SW cor. NE SE Sec. 20-9-13 ..... P.B. to 1,625 ft.; old T.D. 1,976 ft.

J. F. Anderson's No. 1 Burkett, 135 ft. N, 855 ft. E, SW cor. NW Sec. 10-9-13 ..... Set 10-in. 40 ft.; drlg. 813 ft.

Nick Barbare's No. 1 Burkett, 500 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... Set 10-in. 42 ft.

Calatex O. & G. Co.'s No. 1 Whitney Corp., 415 ft. N, 330 ft. E, SW cor. SE Sec. 4-9-13 ..... Set 10-in. 44 ft.; drlg. 625 ft.

A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13 ..... S.D. 40 ft.

Florence Oil Co.'s No. 1 Crawford, 330 ft. S and W, C Sec. 20-9-13 ..... Set 6⅝-in. 1,514 ft.

J. E. Freeman's No. 1 Barr, 990 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Rigging up.

Gerhig Oil Co.'s No. 1 Burkett, 330 ft. S and W, NE cor. SE SE Sec. 9-9-13 ..... Drlg. plug 1,500 ft.

Helena O. & G. Co.'s No. 2 Chambliss, 330 ft. S and E, NW cor. SW NE Sec. 20-9-13 ..... Testing 1,955 ft.

Helena O. & G. Co.'s No. 1 C. E. Pugh, 330 ft. N and E, SW cor. NE Sec. 19-9-13 ..... S.D. 1,956 ft.

(Continued on Page 76)

Daily Average Runs

North Louisiana showed a net gain of 125 bbls. in its daily runs during the past week, but Arkansas, due to a rather sharp decline in the Urbana Field, showed a net decrease of 1,070 bbls. daily, to total a net for both states of 945 bbls. The daily average runs from the several pools were:

NORTH LOUISIANA	Bbls.
Caddo light	4,430
Caddo heavy	1,325
Converse	760
Cotton Valley	550
DeSoto and Red River	1,625
Elm Grove	275
Haynesville	3,825
Holly	155
Homer	3,610
Pleasant Hill	220
Sarepta-Carterville	790
Urania	3,190
Zwolle	6,560
Total North Louisiana	26,315
Total last week	26,190
Increase	125

ARKANSAS	
Champagnolle	1,205
El Dorado	2,575
Lisbon	420
Miller County	780
Nevada	535
Smackover, light	2,625
Smackover heavy	20,940
Stephens	665
Urbana	2,400
Total Arkansas	32,255
Total last week	33,325
Decrease	1,070
Total both states	58,570
Total last week	59,515
Decrease	945

Interesting Wildcat in Southwestern McMullen; Extensive Leasing in Southwest Texas Area

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Dec. 4.—There were very few tests that showed up anything unusual last week in Southwest Texas and new locations numbered 15 compared to around 30 to 50 in other weeks. One of the most interesting wildcats was Armoil Production Co.'s No. 1 Kate Martin in H.T.&B. R.R. Survey No. 9, southwestern McMullen County, which has Mirando sand from 694 to 823 feet with a little showing of oil in the upper section, an unusual amount of sand. Another interesting piece of news is the deepening of two tests, one by Navarro Oil Co. in the North Government Wells Field and the other by Humble in the Kohler Field, to test lower sands.

Armoil Production Co.'s well is considerably to the west of the Government Wells play and hence gets the formations much shallower. The formations also rise to the north and the test is over 20 miles north of the North Government Wells Pool. With the thickening of sands the operators are hoping this will hold also for the lower sands, the Jacob sand producing in the northeastern part of the county, Pettus sand in Bee County and Laurel sand southwest of it in Webb County. Cook Mountain is expected at around 2,000 feet.

Two Deep Tests

Navarro Oil Co.'s No. 27 C. W. Hahl, 1,650 feet from south and east lines of the west half of Survey No. 360, originally completed at 2,245-80 feet for 70 bbls. of fluid, 10 per cent water, failed to successfully plug back and is now being deepened to test the lower sands. No definite depth is announced.

In the Kohler Field several miles southwest, Humble completed No. 22 Kohler in the northwest corner of Survey No. 395 at 1,860 feet for a gas well, several years ago, in the Cole sand. It is now rigged up to deepen. It is just a half mile south of the company's No. 50 Kohler which went to 7,725 feet where it was abandoned. It furnished a lot of geological information on the territory which has since been discussed in meetings of the geological society. The Jackson was topped at about 1,812 feet in this test. Characteristics of the Claiborne were noted at 5,778 feet.

There have been very few deep tests in all the Laredo district and the great bulk of the production is at less than 2,500 feet.

Coast Counties

Banquette Oil Co. finally completed separator and tanks and No. 1 Ingram, half a mile east of the 2,000-foot gas production of the Agua Dulce Field in western Nueces County, gauged 50 bbls. daily with 1,700 pounds on quarter-inch choke and made 4,900 feet of gas to the barrel of oil. This test is a half mile south of Houston Oil Co.'s No. 1 Purl producing at 4,848 feet, total depth, and the Banquette well has total depth of 4,882 feet, running a little lower. In the Saxet Field in the eastern part of the county where conditions are very similar it was found that experimentation with chokes sometimes resulted in getting much better production, frequently a month of experiment being necessary.

Two miles south of the Banquette test Texon Royalty's No. 1 McCoy, which has been standing at 5,003 feet is plugging back to make a test at around 4,800 feet and if they fail to get anything the test will go to 6,500 feet, the contract depth. Garland Clymore in the meanwhile has spudded in between Banquette and the Agua Dulce Field on the Ollie Purl land.

Duval County

Of the Duval County completions the past week, Magnolia Petroleum Co.'s No. 7 Duval County Ranch Co., in Survey No. 208, on the west end of the north row of producers in the North Government Wells Pool, came in from sand at 2,319-36 feet for a rather smaller well than the others of the field and is reported at 200 bbls. daily. Its importance is its position, making the north row seven wells wide spaced 660 feet apart. Sun Oil Co. must offset Magnolia's No. 7 on the south and Magnolia's No. 8, a north offset to Magnolia's No. 6 which is the farthest east test on the north row, has casing set at usual depth and is waiting on cement to extend the field another location north.

In the Eagle Hill Field 4 miles farther north it looks like both of the Killam tests, Nos. 3 and 4 Wood-Welder, the first south of the field and the other north had failed to get the pay. Both are slightly east of production and half mile north and south. No. 3 Wood-Welder, it is expected, will continue to drill for the lower sands.

East and south offsets to Rodney DeLange's No. 1 Lundell in Survey No. 60, a half mile west of the original Government Wells Pool, failed to flow. The DeLange well flows through choke and came in a good well. Magnolia has the east offset and Humble's No. 13 White is the south offset. Both are going on the pump and DeLange is rigged up for his No. 2 northwest of his No. 1.

The week saw the elimination of Trinity Drillers' No. 1 Hagist in the B.B.B. &C. Survey No. 1, due north of North Government Wells, near the McMullen County line. It was abandoned at 2,505 feet, contract depth, and for the time being north Duval County is without any wildcats that are in the Government Wells play. In southern McMullen County both Pitkin-Goldston's No. 1 Hagist in the McKinney Survey No. 467 and Paul C. Teas' No. 3 Hagist in H.&T.C. R.R. Survey No. 19 are held up temporarily with fishing jobs at less than 2,000 feet.

With the exception of making some additional depth, tests in Starr County the past week were uninteresting.

Extensive Leasing

Standard of Kansas has entered Southwest Texas for the first time and in connection with Navarro Oil Co. is blocking 15,000 acres of leases in southwestern Jim Hogg County and northwest of Sun Oil Co.'s new Cuevitas Pool in northwestern Starr County.

Extensive leasing of big blocks is one of the features that has lately dominated the situation in Southwest Texas. It started with Continental leasing the Driscoll ranch of 53,000 acres in Duval, was followed by Humble leasing the King ranch of more than 1,000,000 acres, a deal that will not be duplicated in Southwest Texas because there are no more ranches of that size. Quite a lot of smaller tracts have been leased, including 45,000 acres of St. Joseph and Matagorda Islands at Aransas Pass, a territory 40 miles long. Seismograph crews are now working on the islands. Only a few months ago major operators in many instances were turning leases into paid up royalty and many thousands of acres of leases were turned back rather than pay the rentals.

Standard of Kansas and Navarro are to drill at once on their block in Jim Hogg County on the F. G. Martinez land and the first location will be in Survey No. 18.

In Jim Wells County Trinity Drillers' No. 1 Seeligson is keeping the attention of the industry by finding good sand conditions and late in the week was testing another at 3,012 feet with considerable depth to make before getting the sand producing in Magnolia's No. 2 Seeligson a mile away and the only near producer.

Edwards Lime District

In the Edwards lime district along the Balcones fault Humble has started its No. 1 Houston in Wilson County between Floresville and Stockdale and at the close of the week was down about 600 feet. This is a very pronounced fault proposition and only one other test in the vicinity went to the Edwards. It was Humble's No. 1 Hardy, drilled this year and abandoned at 5,218 feet. No. 1 Houston is a couple of miles southwest of it.

Amerada Petroleum Corp.'s No. 1 Doerring in southwestern Frio County, and C. J. Webster's No. 2 McCrory in Caldwell County are two other tests drilling for the Edwards and each at the close of the week had not a great deal more depth to make to reach it. Webster, being close to the Balcones, will get it at around 2,300 feet and Amerada, being farther removed from the fault, will get the Edwards at somewhere around 6,300. Three prospective Edwards lime tests in Guadalupe County, Barnhill east of Seguin, Potter and others south of Seguin and Trout, southwest of the Darst Creek Field, have not yet started to drill.

In the Serpentine zone Marts & Beavens' No. 1 Sandahl in the Thomas Smith Survey No. 24, a little north of Kimbro in the northeast part of Travis County, topped Serpentine at 626 feet, about where it was expected and at 646 feet was still in Serpentine and showing oil and set casing, expecting to drill in the first of this week.

If Marts and Beavens make a producer out of it it will be their third field. A lot of wildcatting has been done in the Kimbro territory in the last year or two looking for Serpentine production and they found some Serpentine but failed to make any producers. Marts and Beavens are responsible for opening the equivalent of a new pool in the North Dale territory in southern Bastrop County and they brought in the Cedar Creek Pool in southwestern Bastrop County.

There is a large territory along the Balcones fault where it is known the conditions are favorable to production in Serpentine plugs and the production is usually pretty shallow and pays off with good flush production.

Wildcat Operations in Southwest Texas

Week Ending December 2

Company, well, farm name, section and block—	Remarks:
ATASCOSA COUNTY	
E. O. Burton's No. 1 Blankenship, 1,470 ft. from NW line, 1,830 ft. from SW line of 320-ac. tract, in T. Orr Sur. No. 176	Rigged up.
Dan McMahan's No. 1 Smith & Mowinkle, 245 ft. from NE line, 2,300 ft. from SE line of Alexander, Crain, Harris & Brooks	T.D. 2,423 ft.; coring sand.
BASTROP COUNTY	
Three Oil Co.'s No. 1 M. Ingram, 1,250 ft. from SW line, 940 ft. from SE line of tract in M. Morgan Sur.	Dropped till work is resumed.
BEE COUNTY	
Dash Prod. Co.'s No. 1 Ruhmann, 525 ft. from W line, 150 ft. from N line of lease in J. M. Thurston Sur.	T.D. 110 ft.; drlg. below surface csg.
Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract in F. A. Kerr Sur.	Moving in rig.
W. P. McLain's No. 1 Weiss, 400 ft. E of line between E. S. Price's Nos. 1 and 2 Weiss	T.D. 4,525 ft.; P.B. and whipstocked; will comp. as gasser in Pettus sand at 4,190 ft.
BELL COUNTY	
Gus Winston et al's No. 3 Warrick, 100 ft. N of James Scroggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 1,911 ft.; set csg.
R. S. Wilson's No. 1 Davenport, 200 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,235 ft.; standing.
BEXAR COUNTY	
C. I. Albertson's No. 2 C. Hoke estate, 675 ft. from E line, 250 ft. N of Medina River in Jose Maria Barrera Sur.	T.D. 1,134 ft.; cored chalky lime; setting csg.
Foster et al's No. 1 Appelt, 1,750 ft. from N line, 200 ft. from E line of Anton Ripps' 161.75-ac. tract in Juan Manuel Urriegas Sur. No. 32	T.D. 2,700 ft.; drlg.
Motes-Campbell's No. 2 Stumberg, 450 ft. from N line, 450 ft. from W line of S. Stumberg 140-ac. tract in F. Rolen Sur. No. 48	T.D. 597 ft.; waiting on drill pipe.
George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6	T.D. 920 ft.; set 6⅝-in. csg. at 796 ft.
J. W. Johnson's No. 1 Willow Springs, 150 ft. from N and W lines of lease in B. Munos Sur. No. 151	T.D. 1,481 ft.; drlg.
Montgomery & Ririe's No. 1 Wm. Russell, 1,300 ft. from SE line, 600 ft. from SW line of tract in Fernando Rodriquez Sur.	T.D. 1,308 ft.; dry and abd.
Howard Nessly's No. 1 Coffey, 330 ft. S of center of S line of Samuel Wilson Sur. No. 51, in Fernando Rodriquez Sur.	T.D. 200 ft.; taken over by Humble; will D.D.
Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriquez Sur.	T.D. 1,315 ft.; standing.
H. A. Pagenkopf's No. 1 G. A. Goeth, 600 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montez Sur.	T.D. 2,010 ft.; sidetracking; will go to Edwards.
C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant	T.D. 712 ft.; drlg.
F. E. Tegler's No. 1 Brackenridge, 578 ft. from S line, 2,234 ft. from W line of tract in Maria Gertrudis de Alanis Sur.	T.D. 1,331 ft.; abd.; dry.

(Continued on Page 77)

Battle to Control Wild Gas Well in Louise Field; Humble Makes Important Purchase in Conroe

By W. A. SPINNEY
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Dec. 4.—M. M. Kinley and brother of Tulsa, having extinguished the fire and capped the wild gas well of the Pure Oil Co., have turned the work over to engineers for the Pure Oil Co., who are still battling to kill this tremendous wild gasser in the Louise area of western Wharton County. The well was brought partially under control over the week end when a high pressure christmas tree was clamped over the 13⅜-inch surface casing and the flow directed through a battery of four separators, the largest hookup of its kind ever set up on a well in the Gulf Coast.

Because of the excessive volume of gas and high pressures, operators are unable to close in the well. There is a string of 7-inch casing cemented on top of the sand at 6,445-51 feet but it is believed there are a number of leaks in this, caused probably by the bit, which was being used in drilling out the plug at the time of the blowout, cutting out the walls of the casing when it was blown out of the hole. Any back pressure which might be applied to the well in closing it in might result in charging of other shallower sands with high pressure gas.

At this time a new derrick is being erected over the well to replace the one lost in the blowout and subsequent fire, and an attempt will be made to run another string of small pipe in the hole under pressure and through this pipe heavy mud will be pumped in the well to kill the flow.

The well has been variously estimated from 100,000,000 to 150,000,000 feet daily capacity. That it is every bit as good as that is indicated in the fact that four separators, each with a capacity of 45,000,000 feet daily, are not able to handle the entire production and recover all the fluid production. Approximately 1,060 bbls. of net oil, plus about 44 per cent water, is being run into earthen pits daily. This is estimated to represent about four-fifths of the total output of the well. The gas is being discharged from the separators through an 8-inch line and burned.

The flow from the well is through an extra heavy christmas tree with two open 6-inch lines converging into a 7-inch line to the separators.

Outstanding Play

The well has been wild over two weeks, seven days of which it was on fire. The nature of the production definitely established Louise as a major oil producing area on the Gulf Coast although existence of oil and gas has been proved by production found in another well, No. 1 Stewart, which flowed for a short time and which now is cemented on an oil sand at 5,983 feet, waiting to test.

An important deal on the Gulf Coast that affects the Conroe Field, Montgomery County, was the purchase by the Humble Oil & Refining Co. of the holdings in the A. Steele Survey of the Gulf Coast Drilling & Producing Co., Anderson and Plummer, and McAlbert Oil Co. These holdings consist of a total of 651 acres and according to reports the deal involved a consideration of approximately $3,225,000, of which from $500,000 to $750,000 was paid in cash with the balance to come from the oil produced on the property. The remainder of the Gulf Coast Drilling & Producing Co.'s leases located in A. F. James Survey, was not involved in the transaction. The leases that changed hands were the Gulf Coast Drilling & Producing Co.'s E. E. Hensley and J. F. Hensley tracts, each consisting of 89 acres; Gulf Coast Drilling & Producing Co.'s "B"-Keystone Mills lease of 393 acres; McAlbert Oil Co.'s 40-acre Keystone Mills lease, and Anderson and Plummer's 40-acre Keystone Mills lease. There is a total of 18 completed wells on these leases all of which are controlled by Albert Plummer and D. B. McDaniel. The terms of the consideration have not been made known definitely but it is reported that $225,000 of the purchase price represents reimbursement for previous development on the acreage. This purchase gives Humble a total of 6,541 acres, exclusive of acreage owned jointly with other companies. There is a total of 17,781.41 proven acres in the field according to a recent compilation.

Livingston Field

Development at Livingston, Polk County, continues to be interesting with Humble Oil & Refining Co.'s No. 3 Grandbury, more than a mile west of other production in the field, drilling deeper after finding water in sand from 4,500-20 feet. A drill stem test was made of the sand at the depth of 4,500-20 feet and salt water rose 3,000 feet in the hole in 25 minutes. The test was drilling deeper at 4,610 feet on the last reports. This test topped the Cockfield at 4,208 feet. Taking the elevation into consideration this formation is considerably lower than this same formation was found in the company's No. 1 Grandbury, the nearest producer and at present the most westerly well in the field.

B. & W. Oil Co.'s No. 1 J. M. West, the most southern test in the Livingston Field, was swabbing after being plugged back from 4,370 feet to 4,356 feet. Skelly Oil Co.'s No. 2 Sanders, the most recent well to be completed in the field, indicates it is on par with the best producers in the field. The flow for the first 16 hours was 432 bbls. of pipe line oil through a one-quarter inch choke with a tubing pressure of 575 pounds and casing pressure of 650 pounds. There was 38 feet of screen set in the bottom of the hole. Swabbing was necessary for only a short time and the well cleaned itself into pits and started flowing without interruption. This was the tenth well to be completed in the field.

Greta Field

Greta, in Refugio County, still is in the limelight with a test in the extreme southern part of the field finding a new producing horizon and also extending production approximately a half mile to the south. The extension test is United Production Co.'s No. 5 Lambert, in the E. W. Harper Survey, which showed on a drill stem test 5 fourbles of clean oil and 2 fourbles of mud after being open 11 minutes through one-quarter inch and five-sixteenths inch chokes. The oil was found in a sand at 3,486-3,501 feet which is approximately 900 feet shallower than the main producing horizon is found in the majority of wells at approximately 4,400 feet. The only others completed for oil production in the field is one at approximately 5,900 feet and one well, on the southeast side which is producing gas, has been completed in a shallow sand at 1,723 feet. Other sands have been found but so far have not been developed commercially.

The oil showing in the No. 5 Lambert test indicates that production in the Greta Field and that in the Fox Pool may join. In some of the producing wells in the Greta Field the 3,500-foot sand carried water but with the finding of oil in this sand in the southeast part of the field there is the possibility that the high part of the structure lies in a southeast-northwest trend.

It is reported that the Humble Oil & Refining Co. has purchased the 40 acres adjoining its No. 1 Heard, which cratered and is still blowing wild. The 40 acres was formerly owned by the D. & D. Oil Co. in the N. S. Crunk Survey, and one well has been completed on it, this making around 300 bbls. a day from a total depth of 4,387 feet through two one-quarter inch chokes. The reported consideration was $3,000 an acre.

On the extreme east edge of the field Nesral Oil Co.'s No. 1 Ira Heard in the M. J. Ximenes Survey, which is the east offset to the only deep producer in the field, is drilling in the cap rock at 5,933 feet. This test was first drilled to a total depth of 5,962 feet and missed the sand, but it was found to be off vertical and was plugged back to 1,700 feet and sidetracked. The same company's No. 1 V. E. Heard was drilling in shale at 5,936 feet. Whether this test has missed the deep sand pay will not be known for a few days until the hole has been surveyed.

Roanoke Prospect

A wildcat on the Roanoke, geophysical prospect in Jefferson Davis Parish, Louisiana, has been showing oil and if a producer is completed it will establish a new oil field for the Gulf Coast area. The test is Humble Oil & Refining Co.'s No. 2 DeVilbiss, in Section 14-9s-4w, which is in sand at 8,249-72 feet. A one-string setting of 7-inch casing and screen will be run to bottom as soon as the pipe can be sent to Roanoke.

This is the second test drilled by the Humble Oil & Refining Co. at Roanoke, a prospect acquired from the former Vacuum Oil Co. several years ago. The latter company in the course of its development drilled five deep tests in the area, several of which found showings and one of which swabbed a small amount of oil. However, no commercial production has been developed so far. Another test, Shell Petroleum Corp.'s No. 1 Kratzer, in Section 12-9w-4w, is drilling at Roanoke. This is located about a mile north of the Humble well. At latest report it was down 1,550 feet.

Lake Charles Area

Another wildcat in the Lake Charles area is Gulf Refining Co.'s No. 1 Sweet Lake Land Co. in Section 29-10s-5w, Calcasieu Parish, which was drilling at 5,375 feet on the last reports. This test is the first to be drilled on the Hayes prospect which has been considered a possible salt dome through the extensive geophysical work that has been under the supervision of various major oil companies in that area during the last few years.

Iowa Field

Interest in the vicinity of the Iowa Field in Calcasieu Parish continues with the announcement that the Shell Petroleum Corp. has leased the Mitchell C. LeBleu 80-acre tract located about a mile and a half west of the present production in the field. The tract is in the S half of the SE of Section 15-9s-7w.

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Gulf Coast Fields and Wildcats

Week Ending December 2

DAMON MOUND—BRAZORIA COUNTY

Company, farm and location—	Remarks:
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Standing 2,174 ft.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 6 Belcher, H. N. Little Sur., S 42 deg. W 2,400 ft., S 48 deg. E 400 ft. from N cor. lease.	T.D. 5,476 ft.; standing.
Texas Co.'s No. 6-B Belcher, 880 ft. NW, 900 ft. NE from S cor. of H. N. Little Sur.	Drlg. shale 1,171 ft.
Texas Co.'s No. 7 Belcher, 1,430 ft. S 48 deg. E, 900 ft. W 42 deg. E from NW cor. of W. T. Belcher "A" lease, H. N. Little Sur.	Drlg. gumbo 2,536 ft.
Texas Co.'s No. 1 Ellis, 1,660 ft. N, 807 ft. S, from NW cor. of lease, H. N. Little Sur.	Drlg. shale 6,045 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 5 Fisher, Wm. Bloodgood Sur., 75 ft. N line, 191 ft. W of No. 4	Sand 5,272-5,303 ft.; comp. 750 bbls.; ⅝-in. choke.
Mills Bennett Prod. Co.'s No. 1-D Barber, 78 ft. S, 65 ft. W of NE cor.	Drlg. salt 1,450 ft.
Humble O. & R. Co.'s No. 3-C Kirby, H. Griffith Sur., 311 ft. from SE line, 659 ft. NE line of lease	Drlg. salt 3,272 ft.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Drlg. sand 3,269 ft.
Sinclair Prairie Oil Co.'s No. 16 Wilburn, 50 ft. N, 50 ft. W of No. 12	Drlg. sand 5,002 ft.
Sun Oil Co.'s No. 16 J. Wilburn, Henry Griffith Sur. (W.O.)	Drlg. sand 3,921 ft.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Drlg. rock 1,180 ft.
Sun Oil Co.'s No. 18 Wilburn, Henry Griffith League, 50 ft. N of S line, 50 ft. E of W line of lease	Drlg. rock 1,122 ft.
Texas Gulf Prod. Co.'s No. 2 Fitzgerald, Henry Griffith League, 300 ft. W line, 80 ft. S line	Drlg. sand 5,065 ft.
Texas Gulf Prod. Co.'s No. 3 Wilburn, 50 ft. out of the upper SE cor. of lease, Wm. Hodges Sur.	Drlg. rock 1,236 ft.
Texas Co.'s No. 6 Wilburn (W.O.), Henry Griffith League, 350 ft. W of No. 4, 50 ft. S line of lease	Drlg. shale 4,465 ft.
Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur.	Resetting screen; T.D. 5,313 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Stream, Inc.'s No. 1 A. H. Theis, 236 ft. E of old No. 4 A. H. Theis in line, Mitchell Young Sur.	Drlg. rock 2,846 ft.
McPhail et al's No. 1 Wheat	Sand 2,468 ft.; standing.

NASH—FORT BEND COUNTY

Harrison Oil Co. and Abercrombie Oil Co.'s No. 16 Nash, 296 ft. E, 837 ft. S of lease, T. H. Allsbury Sur.	Drlg. salt 5,605 ft.

RABBS RIDGE—FORT BEND COUNTY

Humble O. & R. Co.'s No. 6-A Gubbles	Sand 5,356 ft.
Humble O. & R. Co.'s No. 9 M. Gubbles, Sam Kennedy Sur., 814 ft. SE of No. 7	T.D. 5,336 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 18-B Lockwood & Sharp	Drlg. shale 3,220 ft.

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Gypsy Will Test Lansing Lime in Old Towanda Pool, in Butler County; Production Is Down

By JAMES McINTYRE

The Gypsy Oil Co. is starting a test offsetting the famous Shumway gusher in Section 11-26-4, Towanda Field, Butler County, Kansas, which produced 2,250,000 bbls. from the late summer of 1917 until about eight months later, in 1918. The new well, however, will be a Lansing lime test and will be drilled with a machine. The well is No. 19 Ladd, NE cor. SW Section 11-26-4, recently taken over in a deal with the Phillips Petroleum Co. Lansing lime wells, which have produced, have been found to be responsive to acid treatment and as the pay may be expected around 1,650 feet, it is looked upon as worth exploring in Butler County.

Production in Kansas last week was in accord with the Government's allowable. Drilling operations in the State have slowed down considerably of late, operators evidently preferring to wait until the market demand for oil will warrant the drilling of deep and expensive wells in the central and western counties. There are a dozen or more wells in the McPherson-Harvey County Pools which have been in for some time but which have not yet been completed or given a potential test.

Production of Pools

Following is the estimated daily production of some of the more prominent pools and fields in Kansas in the week ending December 2 and the previous week:

Pool or field—	Dec. 2	Nov. 25
Hollow	8,495	7,685
Rits-Canton	15,175	15,765
Voshell	6,250	5,835
Sedgwick County	7,280	9,360
Nikkell	2,140	2,600
Ellsworth County	4,763	5,353
Rice County	7,612	8,341
Barton County	349	472
Reno County	1,701	1,550
Ellis County	387	383
Kingman County	517	491
Stafford County	2,291	2,189
Russell County	6,235	4,690
Greenwood County	11,000	11,000
Butler County	17,760	17,250
Other pools	22,755	23,446
Total	114,710	116,329

Showing in Edwards County

Atlantic Oil Producing Co.'s No. 1 Bradbridge, C SE NW Section 1-24-16w, a wildcat in Edwards County, had 6,000,000 feet of gas and a spray of oil at a total depth of 4,125 feet. The gas was killed and the crew was underreaming 6-inch casing. Siliceous lime was topped at 4,096 feet.

Reno County

In Reno County, Gypsy Oil Co.'s No. 2 Krehbiel, C SE NE Section 35-23-4w, was completed. It flowed 386 bbls. in 24 hours, together with 500,000 feet of gas, on a potential test, the oil coming from pay at 3,257-70 feet.

Sinclair Prairie Oil Co. was moving in rotary for No. 1, C SW NW Section 36-23-4w.

Harvey County

In the Hollow Pool in Harvey County, Shell Petroleum Corp.'s No. 2 Voth, NE NW Section 4-22-3w, swabbed 365 bbls. in eight hours from Hunton lime at 3,486-3,500 feet, but it will be drilled deeper.

J. E. Mabee, Inc., and Shell Petroleum Corp.'s No. 1 Nikkell B, SW cor. Section 8-22-3w, swabbed 110 bbls. in five hours from Wilcox sand at 3,560-71 feet. It was then shot at 3,561-70 feet and a fishing job followed.

Shell Petroleum Corp.'s No. 4 Schmidt, SW cor. Section 17-22-3w, swabbed 1,090 bbls. in 23 hours from Hunton lime at 3,460-81 feet. It was not completed.

Sinclair Prairie Oil Co.'s No. 4 Neufeldt, NE SE NE Section 18-22-3w, was treated with acid in Hunton lime at 3,407-44 feet, and swabbed 240 bbls. in 24 hours. It was held for potential test.

Mid-Kansas Oil & Gas Co.'s No. 1 Klassen, NE NW Section 30-22-3w, found Wilcox sand at 3,488 feet, and drilled to 3,429 feet. The sand was shot with 10 quarts and swabbed 950 bbls. in 24 hours. It was held for potential test. Same company's No. 2 Klassen, SE NE NW Section 30-22-3w, had 15-inch pipe set at 426 feet and was waiting for cement to set.

McPherson County

Slick, Pryor & Lockhart's No. 3 Stucky, CWL SW Section 27-20-3w, McPherson County, was shot a second time in Wilcox sand at 3,395-3,414 feet, and swabbed 400 bbls. in 13 hours. It was being cleaned out.

Sinclair Prairie Oil Co.'s No. 6 McCurdy, SE NE SE Section 33-20-3w, was drilled to Wilcox sand topped at 3,323 feet, and continued to a total depth of 3,376 feet. It swabbed 3 bbls. per hour, but after a 20-quart shot at 3,341-50 feet, swabbed 20 bbls. per hour. Location was made for No. 7 McCurdy, NW NE SE Section 33-20-3w.

The Texas Co.'s No. 4 Munn, SE NE NE Section 12-20-2w, was deepened from 2,988 feet to Viola lime at 3,399-3,404 feet and acidized. It pumped 151 bbls. of oil and 5 bbls. of water. It was completed.

Regina Oil & Gas Co. completed its wildcat test, No. 1 Vogts, C SE SE Section 8-20-1w. It tested 541 bbls. of oil and 140 bbls. of water from Viola lime at 3,390-98 feet.

Mid-Kansas Oil & Gas Co.'s No. 1 Chindberg, NW NE SE Section 13-19-3w, was opened and flowed 390 bbls. in 24 hours, from chat at 3,008-27 feet. It was not a potential test, and the well is not classed as a completion.

Broswood Oil Co.'s No. 2 Griffin, C SW SW Section 14-19-2w, was deepened from 2,961 feet to 2,974 feet, still in chat and flowed 160 bbls. of oil and 30 bbls. of water in 24 hours in a potential test. It was completed. Shell Petroleum Corp. was rigging up No. 4 Meyers B, C SW SE Section 14-19-2w, to deepen from 2,928 feet.

Helmerich & Payne and Shell Petroleum Corp.'s No. 1 Russell, C NW NE Section 23-19-2w, deepened from 2,952 to 3,367 feet (Viola lime) and acidized, was given a pumping test and made 300 bbls. of oil in 13 hours. Same operators are rigging up No. 2 Russell, NE cor. Section 23.

Lario Oil & Gas Co. and Shell Petroleum Corp.'s No. 3 Hill, SW SE SE Section 23-19-2w, which had been acidized in Viola lime at 3,375-91 feet, pumped 94 bbls. in five hours.

Gypsy Oil Co.'s No. 3 Lovett, NW cor. Section 24-19-2w, pumped 388 bbls. in 13 hours after an acid treatment in Viola at 3,382-96 feet.

Wakefield and Shell Petroleum Corp.'s No. 3 Koehn, SE NE NW Section 36-19-2w, flowed 100 bbls. of oil and 1,000,000 feet of gas in 24 hours from chat at 2,934-70 feet.

Lario and Shell's No. 3 Lagree, SE SW NW Section 31-19-1w, was completed. It pumped 244 bbls. in 24 hours from Viola lime at 3,386-3,412 feet, which had been acidized.

J. E. Mabee, Inc., and Shell Petroleum Corp. have rig up for No. 5 Friesen, NE SW SE Section 33-21-3w; same operators' No. 4 Nikkell B, SE NW SE, Section 33-21-3w, drilling at 540 feet; Mid-Kansas Oil & Gas Co.'s No. 4 Schmidt, SE NE NW Section 33-21-3w, rigging up; W. C. McBride, Inc.'s No. 3 Koehn, NE NW Section 33-21-3w, drilling at 700 feet; Sinclair Prairie Oil Co.'s No. 7 McCurdy, NW NE SE Section 33-20-3w, location; Roth & Faurot's No. 2 Swanson, SW SE NE Section 13-19-3w, a rig; Wolf Creek Oil Co. and others' No. 1 Krehbiel, NE NW NW Section 25-19-2w, to deepen from 2,967 feet; Darby Petroleum Corp.'s No. 2 Doane, SW NW Section 28-19-1w, set 15-inch pipe at 150 feet.

Cowley County

Kansas Okla Oil Co.'s No. 1-A State, SW SE SE Section 15-32-4, Cowley County, found Siliceous lime at 3,293-3,301 feet, total depth, and produced 17 bbls. per hour on the pump.

Blakesley & Wentz' No. 1 Pettit, SE SW SE NW Section 34-32-4, got a hole full of water at 2,470 feet, drilled to 2,640 feet, and the hole was abandoned.

Sinclair Prairie Oil Co. moved in rotary for No. 7 Dibbens, NW NE NE Section 22-32-4. A. D. Crow was drilling at 700 feet in No. 1 Seaman, C S half Section 4-32-5.

Theta Oil Co. was drilling at 340 feet in No. 1 Webb, 660 feet from south line and 200 feet from west line, SE Section 23-31-10, Chautauqua County.

Butler County

E. B. Shawver was drilling at 200 feet in No. 1-A Ralston, 990 feet south and 660 feet east of C Section 8-28-4, Augusta district, Butler County, and George Bruse and the Empire Oil & Refining Co. have machine in for No. 1-A Miller, C SE NE Section 10-28-4.

F. G. Hall and others' No. 1-B Graves, C W half W half NW Section 17-29-4, was treated with 1,000 gallons of acid in lime at 1,807-75 feet and produced 60 bbls. of oil and 140 bbls. of water in 24 hours. It was completed.

Darby Petroleum Co. and Lauck's No. 1 Lauck, SE SW SE Section 17-27-3e, a wildcat, was drilling at 207 feet after setting 20-inch pipe at 88 feet.

Greenwood and Woodson Counties

Sheedy and others' No. 6 Mills, NW SE NE Section 24-25-13, Greenwood County, was completed, a 20-bbl. pumper from sand at 1,500-07 feet. This was the only completion in the Greenwood-Woodson area, but a number of new operations were started including Ralph Brinegar's No. 1-A Huff, SW cor. Section 29-

(Continued on Page 64)

Wildcat Operations in Kansas

Week Ending December 2
(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Schneider, C NE SW Sec. 15-20-12w	T.D. 2,948 ft.; fishing.
Gypsy Oil Co.'s No. 1 Soderstrom, SE NE NW Sec. 21-17-13w	Drlg. 1,653 ft.
Helmerich & Payne's No. 1 Everleigh, C SW SE Sec. 13-18-13w	S.D. 2,905 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	O.W.D.D.; T.D. 3,706 ft.; bailing.
Sinclair Prairie Oil Co.'s No. 1 Redetzke, NE SE Sec. 9-16-11w	Drlg. 2,645 ft.
BUTLER COUNTY	
Darby Pet. Co. and Lauck's No. 1 Lauck, SE SW SE Sec. 17-27-3	Drlg. 207 ft.
COWLEY COUNTY	
Yarnell et al's No. 1-A Speer, SE NE NE Sec. 31-33-6e	U.R. 6-in. csg.; T.D. 2,210 ft.
Van Meter et al's No. 1 Moore, NE cor. Sec. 5-35-4	Rig.
EDWARDS COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Bradbridge, C SE NW Sec. 1-24-16w	T.D. 4,125 ft.; 6,000,000 ft. gas, killed; U.R. 6-in. csg.
FINNEY COUNTY	
National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 2-23-29w	T.D. 3,280 ft.; fishing.
HARVEY COUNTY	
Holbart Oil Co.'s No. 1 Harder, SE SW SE Sec. 11-23-1e	Drlg. sand 3,580 ft.
Holbart Oil Co.-Shell Pet. Corp.'s No. 1 Gingras, NE SW Sec. 3-24-1e	Drlg. 3,370 ft.
KINGMAN COUNTY	
Olson and Skelly Oil Co.'s No. 1 Emery, C SW NW Sec. 22-25-6w	Siliceous lime 4,043-54 ft.; U.R. 5-in. csg.
McPHERSON COUNTY	
Dieter et al's No. 1 Carlson, SE cor. Sec. 4-19-3w	T.D. 3,122 ft.; S.D.
Jim Madison's No. 1 Boesker, SE NW Sec. 29-20-1w	Spudded.
Harris & Haun's No. 1 Rupp, SW cor. Sec. 12-21-2w	Rigging up.
Paramount Oil Co.'s No. 1 Steinkirchner, NE SE SE Sec. 25-19-1w	T.O. 3,504 ft.; U.R. 5-in. csg.
PHILLIPS COUNTY	
Ashby et al's No. 1 Donaldson, C NE NE Sec. 25-5-18w (O.W.D.D.)	C.O. 400 ft.
RENO COUNTY	
Roth & Faurot's No. 1 Yoder, C NW NW Sec. 16-24-5w	Set 6-in. pipe at 3,423 ft.; R.U.
RICE COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Brandenstein, C SE SE Sec. 10-19-10w	420 bbls. in 6½ hrs.; 3,014-26 ft.
Danciger et al's No. 1 Roesler, SW NE Sec. 11-18-10w	T.D. 2,950 ft.; U.R. 6-in. csg.
El Dorado Ref. Co.'s No. 1 Wernet, SW NE Sec. 13-20-6w	Drlg. 2,465 ft.
Elmer Corn et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	Rig on ground.
Lario O. & G. Co. and Elwell's No. 1 Russell, NE SW Sec. 29-23-7w	Rigging up.
Verne Simmons et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	Rigging up.
Langston et al's No. 1 Markle, NE SW Sec. 1-20-8w	Drlg. 662 ft.
RUSSELL COUNTY	
Western Exploration Co.'s No. 1 Andrea, SW cor. Sec. 30-15-12w	Drlg. 1,957 ft.
Tom Palmer's No. 1 Steinle, NW SW Sec. 22-13-14w	Rig.
SALINE COUNTY	
Lario O. & G. Co.'s No. 1 Burrell, NW SW Sec. 15-14-2w	Drlg. 2,680 ft.
SEDGWICK COUNTY	
Cameron et al's No. 1-A Funk, SW SE NW Sec. 6-26-2e	Rig; spudded.
Wentz et al's No. 1 Stockamr, SW NE Sec. 31-26-2w	T.D. 2,307 ft.; U.R. 10-in. csg.
STAFFORD COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Willinger, C NE NE Sec. 18-22-11w	T.D. 2,885 ft.; fishing.
WOODSON COUNTY	
Lewis Bros.' No. 1 Riggs, SW cor. Sec. 10-26-14	Set pipe at 765 ft.

Oklahoma Production Much Below Allowable in Past Week; Oklahoma City's 5th Birthday

By JAMES McINTYRE

The Oklahoma City Field was five years old on Monday, December 4. It has produced 180,000,000 bbls. of crude oil, most of the time under very severe restraint made necessary to save the oil market from collapse. It is not yet drilled up and new wells are coming in, which, if permitted to flow freely, would record initial productions of many thousand barrels. The Indian Territory Illuminating Oil Co., and Foster Petroleum Co., both of Bartlesville, Okla., opened the field with a well in the middle of 40 acres, the exact location being C SE SE Section 24-11-3w.

The discovery well produced 1,036,000 bbls. of oil from Arbuckle limestone and finally quit. It was plugged back and is now a gas well. As it drained 40 acres the average production per acre was more than 25,000 bbls., an unusually good record, and much above the average production per acre of the combined 50 largest fields of the United States.

There are 940 producing oil wells in the field and 65 gas wells. Its limits have been defined on the east and south. There is the possibility of extensions north but how far westerly it is oil bearing may not be known because Oklahoma City lies over the west side of the field, and drilling restrictions will limit operations within that city.

The Oklahoma City Field is declining rapidly. Its potential has fallen 65 per cent in two and one-half years. Notwithstanding this it is one of the largest potential producers in the United States.

Production by Pools

Estimated daily average production in Oklahoma in the week ending December 2 and in the preceding week follows:

	Dec. 2	Nov. 25
Allen	8,725	9,225
Bristow-Slick	11,100	11,250
Healdton	9,800	9,800
Hewitt	5,000	5,000
Burbank	9,400	9,400
Balance of Osage	18,000	17,500
Lucien	7,175	6,160
Bowlegs	9,580	11,110
Carr City	5,540	6,215
Cromwell	4,750	4,800
Earlsboro	9,065	9,755
East Earlsboro	13,435	16,030
South Earlsboro	1,410	1,405
Little River	13,520	16,550
East Little River	740	865
Oklahoma City	119,845	185,865
Seminole	9,630	10,000
East Seminole	1,085	1,165
Searight	2,255	2,130
Maud	1,435	1,465
Mission	3,850	4,285
Cushing-Shamrock	13,200	13,250
St. Louis-Pearson	22,795	23,330
Tatums-Tussey	8,750	8,500
Sholem-Alechem	4,850	4,900
Wewoka	4,250	4,250
Other pools	102,562	103,555
Total Oklahoma	421,750	497,760

Ray Collins Executive Agent

The Oklahoma Code Enforcement Committee for Production selected Ray M. Collins, of Tulsa, as executive agent and he will devote his time to the several committees of the Oklahoma Production Committee which have been appointed to take care of production code problems of the State.

The principal problems which will occupy Mr. Collins' time are as follows: Application of stripper well definition, withdrawals from storage, employment problems, observance of production allocations, observance of approved new pool development plans, assisting the Advisory and Co-ordinating Committee in its investigation of recommendations on new pool development plans, assisting the Committee on Allocations in efforts to secure an equitable production allocation and a distribution of such allocation to the several pools and districts.

The Code Enforcement Committee appointed by the Oklahoma Production Committee and consisting of C. C. Herndon, chairman; C. H. Leib, vice chairman; Arthur A. Seeligson; and B. G. Patton has been augmented and the following local or district committee chairmen have been named: Carl Haun, Ponca City district; B. G. Patton, Oklahoma City district; Jake Hamon, Jr., Ardmore district; J. R. Simpson, Seminole district; Sam Vierson, Okmulgee-Muskogee district; L. B. Jackson, Drumright-Cushing-Bristow district; W. W. Warner, Bartlesville-Nowata district; Rush Greenslade, Osage district.

These subcommittee chairmen will select their own committee members subject to the approval of the general committee, and Mr. Collins will work directly with each of these committees in the solution of local problems.

A Budget and Finance Committee (J. F. Darby, chairman), has completed a tentative budget for the Oklahoma Proration Committee and will initiate plans for raising the necessary money from all producing interests.

Logan County

Gypsy Oil Co. has cellar and pits dug for No. 1 Campion, C SW SW Section 27-17-4w, in the Crescent Pool in Logan County. It is an offset to Gypsy Oil Co. and Carter Oil Co.'s No. 1 Good, C SW SW Section 27, which came in for 2,800 bbls.

H. E. Rapp's No. 1 Price, C E half NE SW Section 19-14-3w, in the Edmond district, Oklahoma County, flowed an average of 120 bbls. per day in the week ending November 27 and then was made to flow through the casing and produced 180 bbls. per day and 1,000,000 feet of gas, but with 4 per cent water.

In West Chandler Area

In the West Chandler Field in Lincoln County, where the Stanolind Oil & Gas Co. and Amerada Petroleum Corp. got a 785-bbl. well in Wilcox sand at 4,978-84 feet, No. 1 Brill, NW NE Section 11-14-3e, the same operators were building rigs for No. 2 Brill, NE cor. and No. 3 Brill, SW NW NE Section 11. The Magnolia Petroleum Co. drilled plugs in No. 1 Rice, NW SW NE Section 11-14-3. Nine-inch pipe had been cemented at 4,950 feet in Simpson dense. Wilcox was found at 4,955 feet, but water was uncovered at 4,962-70 feet, with some oil. Drilling was discontinued at 4,976 feet. The hole filled 900 feet with fluid, only 200 feet of which was oil. This well is only two locations south of the Stanolind-Amerada No. 1 Brill, above mentioned.

Oklahoma County

In the Oklahoma City Field, Frank Russell's No. 1 Highley, SW NW SE Section 23-12-3w, which came in in September, but has not yet been declared a completion, flowed 242 bbls. while being cleaned out.

Denver Producing & Refining Co.'s No. 2 Frisco Freight house, 863 feet south and 964 feet east of NW cor. Section 3-11-3w, flowed 150 bbls. in 1 hour and 30 minutes on the gas lift. The gas was estimated at 750,000 feet per day.

Pierce and others completed No. 1 Shepard, C NE NW SE Section 15-11-3w. It flowed 2,499 bbls. of oil and 2,700,000 feet of gas in 24 hours.

Phillips Petroleum Co. completed No. 3 Drew, 840 feet south and 1,135 feet east of C Section 22-11-3w. It flowed 1,005 bbls. in four hours, and completed No. 2 Hardcastle, 908 feet from south line and 305 feet from east line of SW Section 22-11-3w. It flowed 1,230 bbls. in four hours with gas at the rate of 12,400,000 feet.

Sentinel Oil Co.'s No. 1 Rodesney, 443 feet south and 445 feet east of C Section 22-11-3w, was completed. It flowed 1,865 bbls. in 24 hours. The gas production was only 500,000 feet. This well came in last spring and at one stage flowed 4,185 bbls. in 11 hours.

The Springrose Drilling Co.'s wildcat near Newalla, No. 1 Edwards, C SE SE Section 19-11-1, Oklahoma County, is drilling in lime and shale at 5,730 feet. It had Oswego lime at 5,684 feet and cored a dry sand at 5,700-16 feet.

Greater Seminole

The Atlantic Oil Producing Co. and others' No. 1 School land, C NE NW NW Section 36-10-4, northern Pottawatomie County, had 1,700 feet of water in the hole from sand at 4,441 feet. The water would not bail down. The crew was preparing to run pipe.

Carter Oil Co.'s No. 7 F. Chowning, C SW NW SW Section 19-9-6, Seminole City area, was dry and abandoned at 3,572 feet. It was a Cromwell sand test and that sand at 3,553-66 feet showed only a little oil or gas.

Magnolia Petroleum Co.'s No. 2 Franks, SW cor. Section 25-9-6, an old Wilcox sand well, was plugged back to test Hunton lime at 3,929-75 feet. It pumped 139 bbls. in 24 hours.

Scruggs and others' wildcat, No. 1 Black, NE cor. Section 13-9-10, Hughes County, had a small show of gas and a hole full of water from Gilcrease sand at 2,440-70 feet.

Texas Co. has cellar dug for a wildcat test, No. 1 Terfertiller, NW cor. NE Section 4-8-3, Pottawatomie County.

Atlantic Oil Producing Co.'s No. 1 Davis, SW NE SE Section 13-8-6, Bowlegs area, which was shot in Wilcox sand at 4,143-53 feet, swabbed 50 bbls. in 24 hours and will be put on the pump.

Vivian Oil Co.'s No. 1-A Kanster, SE cor. SW Section 18-7-4, St. Louis district, was tested on the swab for 16 hours and made 215 bbls. and then on the pump and produced 40 bbls. in 21 hours. It had been plugged back to 3,986 feet, and acidized.

Sinclair Prairie Oil Co.'s No. 2 Meyers, SE cor. Section 32-7-4, was deepened to dolomite at 4,140-81 feet. It swabbed 360 bbls. in 20 hours. It had previously swabbed 155 bbls. from Simpson at 4,092-4,133 feet.

Amerada Petroleum Corp.'s No. 3 Harrison, C SW SW SW Section 33-7-4, was acidized in dolomite at 4,217-55 feet. It showed only water and was to be reacidized.

Hall & Briscoe completed No. 2 Brown, NW SW NW Section 33-7-4. It had been treated with acid in dolomite topped at 4,162 feet and produced 514 bbls. of oil and 375 bbls. of water in a 24-hour swabbing test.

Helmerich & Payne's No. 1 Billington, SE SW Section 31-7-5, which had been drilled to 4,127 feet, was plugged back to 4,122 feet and shot with 20 quarts. It swabbed 60 bbls. of oil and 25 bbls. of water in 24 hours and will be given a pumping test.

Mid-Continent Petroleum Corp.'s No. 3 Bruner, NE SW SE Section 9-7-8, in the Holdenville area, flowed 160 bbls. of oil and 8,000,000 feet of gas from Booch sand at 2,890-2,942 feet.

Burke-Greis Oil Co.'s No. 2 Davis, C SE SW SW Section 20-7-8, was shot with 40 quarts at 2,800-24 feet and swabbed 60 bbls.

Kent & Preston's No. 1 Petete, SE NE SW SW Section 22-7-8, pumped 25 bbls. in eight hours after a small shot at 1,163-73 feet.

Stewart & Egan's No. 1 Sanderson, NE cor. SW Section 27-6-5, Seminole County, was dry and abandoned, total depth 3,757 feet.

Mainard and others had a hole full of oil at 1,177-1,205 feet in No. 6 Moore, NW cor. NE Section 22-7-8, and it was to be tested on the pump.

New work in the Greater Seminole area included Carter Oil Co.'s No. 1 H. Joe, C W half SE SW Section 2-9-6, Seminole County, a rig; Sinclair Prairie Oil Co.'s No. 2 Tiger, NE NW Section 1-8-6, a location; Bunn and others' No. 1 Harris, SW NW SE Section 36-8-7, Seminole County, drilling at 600 feet; Burke-Greis Oil Co.'s No. 1 Harper, NE NW Section 15-8-8, rigging up standard tools; Mid-Kansas Oil & Gas Co. and Dempsey's No. 7 Davis, SE NE NE NW Section 30-8-8, rig; Dingee and others' No. 1 Thomas, SE NE NE Section 9-7-4, moving in rotary; Sayre and others' No. 1 Green, SW SE NW Section 15-7-4, rig; Vaughn and others' No. 3 Lowther, SW NE SW Section 33-7-4, Pottawatomie County, drilling at 1,180 feet; Mid-Continent Petroleum Corp.'s No. 5 Factor, SW NW SE Section 15-7-8, Seminole County, spudding; Tramp & O'Connor's No. 5 Hackett, SW SE Section 15-7-8, machine; Winona Oil Co. and Jarvis & Holm's No. 2 Campbell, CEL NE SW SW Section 20-7-8, spudding; Burk Kan Oil Co.'s No. 1 Gardner, NE NW Section 22-6-9, Hughes County, a wildcat, moving in rotary.

Pontotoc County

Denver Producing & Refining Co.'s No. 3 Hickman, NW SE SE Section 25-5-4, Pontotoc County, was completed. It is a 115-bbl. well at 2,540-91 feet.

Loke Oil Co. completed No. 3 Barker, C NW NE SE Section 25-5-4, which tested 360 bbls. on the swab, from Viola lime at 2,437-2,606 feet, shot with 315 quarts.

Vierson and others' No. 1 Norman, NE NW SE Section 7-5-5, was dry in Viola lime, total depth 2,795 feet, and may be abandoned.

Superior Oil Co.'s No. 1 Hardin, NW cor. Section 30-2-7e, was shut down for orders. It had Woodford lime at 3,320 feet; Hunton at 3,686 feet; Sylvan at 3,960 feet; total depth 3,962 feet; with no oil showing in paying quantities at any depth.

New work started in Pontotoc County included Moore and others' No. 2 Gray, SW SE NE Section 25-5-4, location; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Aldridge, C N half S half SE Section 2-5-7, drilling at 1,340 feet; W. A. Delaney's No. 1 Dawes-Hardin, SE NW Section 30-2-7, moving in machine.

In Coal County, M. C. Mitchell drilled an old well deeper, No. 1 Sherling, NE NW SE Section 35-1-8, and got a 500,000-foot gas production at 1,940 feet.

Haley and others' No. 1 Wilkerson, NW cor. Section 9-2-16, Pushmataha County, was abandoned at 678 feet. It was a wildcat test.

Failure in Payne County

The Amerada Petroleum Corp. and

Stanolind Oil & Gas Co.'s No. 1 Bryant, NW SE SE Section 6-18-5, Payne County, about 6 miles northeast of Cushing, was abandoned at 3,699 feet. It had made a 65-bbl. flow in 12 hours from Wilcox sand and showed 3,000,000 feet of gas. It drilled into water at 3,686-99 feet. First Wilcox sand was topped at 3,618 feet and the second Wilcox at 3,640 feet.

Creek County

Jones & Doss' No. 3 Tiger, CEL NW NE Section 34-18-8, Olive Pool, Creek County, was shot with 120 quarts in Layton sand at 1,294-1,325 feet and swabbed and flowed 200 bbls. in 24 hours. It was completed.

F. L. Marr's No. 3 Tiger, CNL NE NE Section 34-18-8, was completed. It was a 75-bbl. initial producer after a shot at 1,310-36 feet. Same operator's No. 4, SW NE NE Section 34-18-8, made 125 bbls. in one day, following a shot at 1,278-1,305 feet.

P. C. Perry's No. 1 Montgall, SE NE NW Section 34-18-8, is a 15-bbl. well at 1,278-1,303 feet.

Texas Co.'s No. 1 Harry, NW cor. SW Section 35-18-8, which found Layton sand dry at 1,242-68 feet, drilled to Red Fork sand at 2,554-80 feet. It was shot and the well made 30 bbls. in 24 hours.

H. C. Fogle's No. 10 Bruner, 660 feet north and 1,020 feet east of C Section 33-17-7, in the old Cushing Field, is a small well at 2,485-2,525 feet. It had been drilled to Tucker sand at 2,930-36 feet and plugged back.

E. A. Smith's No. 4 Freeman, SE NE SW Section 14-17-8, was shot in Layton sand at 1,357-81 feet, and made 20 bbls. in one day.

Curtis Oil Co.'s No. 1 Unallotted, SE SW NE Section 12-17-10, was dry and abandoned at 2,017 feet.

Phillips Petroleum Co.'s No. 6 Charles, SW SE SE Section 25-15-7, was completed. It came in late in October flowing 299 bbls. in 24 hours from Wilcox sand at 3,796-3,806 feet. Later it was deepened, and at 3,812-14 feet there was an increase in oil to 373 bbls.

New work started in Creek County included the following: Big Four Oil Co.'s No. 2 McNac, NW SE SE Section 34-19-8, set 10-inch pipe at 810 feet; McDonald and others' No. 1-A Rentie, NE SW SW Section 31-19-10, rigging up; C. L. Berry's No. 1 Jackson, SW cor. Section 23-18-8, drilling at 295 feet; Gled Oil Co.'s No. 4 Escoe, SW SE SE Section 27-18-8, machine; Merritt and others' No. 5 Brown, NE NW NE Section 27-18-8, spudded; F. O. Akin's No. 9 Wilson, CNL S half SW NE Section 34-18-8, spudded; same operator's No. 10 Wilson, NW SW SW NE Section 34-18-8, spudded; Jones & Doss' No. 6 Tiger, CWL NW NE Section 34-18-8, rig on the ground; Kilgore and others' No. 3 Tiger, SW NE SW NE Section 34-18-8, spudded; Weeks and others' No. 1 Swingle, SW SE SW Section 18-18-9, spudded and shut down; Texas Co.'s No. 11 Gooden, SE SW NE Section 16-17-7, deepening at 2,772 feet; Shawnee Petroleum Co.'s No. 1-A Devers, CNL NE SE Section 29-17-11, spudded; Turner and others' No. 1-A Cross, CNL SW SE Section 36-17-11, rigging up; C. D. Klingensmith's No. 1 Watson, SE SW SE Section 33-16-11, location; same operator's No. 7 Grayson, SE NE NW Section 35-16-11, drilling at 1,400 feet.

Northwestern Wells

Argo Oil & Gas Co.'s No. 1-A Stone, NW SE NE Section 30-25-1w, Kay County, was shot with 30 quarts in sand at 4,240-60 feet and flowed 160 bbls. in 24 hours. It also showed 1,500,000 feet of gas. It will be tested on the swab.

Acre and others' No. 1 Acre, C SW NE Section 14-24-11w, Alfalfa County, is shut down. The crew recovered the tools lost in the hole. This well has shown as much as 70 bbls. of oil in 24 hours. The total depth is 6,255 feet.

J. H. Lewis' wildcat, No. 1 Clark, C NW NW Section 34-21-6w, Garfield County, had a small showing of gas and dead oil at 6,390-97 feet. It drilled detrital at 6,225-38 feet and found the top of the Mississippi lime at 6,375 feet.

Noble County

In the Lucien Pool, Noble County, Lucien Consolidated Oil Corp.'s No. 2 Wolfe, C NW NW Section 17-20-3w, was plugged back from 5,238 feet, and shot with 50 quarts at 5,175-5,200 feet. It swabbed six hours and made 25 bbls.

Minnehoma Oil Co.'s No. 1 Schonwald, 440 feet south and 990 feet west of NE cor. Section 20-20-2w, found a stray sand at 5,232-33 which increased its production from 30 bbls. an hour to 67 bbls. an hour, flowing by heads. It had been producing from 5,056-5,116 feet.

Shell Petroleum Corp. and others' No. 1 Webber, C NW NW Section 20-20-2w, was completed. It flowed 4,528 bbls. in 24 hours from the second Wilcox sand topped at 5,155 feet, but with the most prolific pay streak at 5,246-51 feet; total depth is 5,251 feet. Same operators' No. 2 Webber, C NE NW Section 20-20-2w, got the top of the second Wilcox sand at 5,168 feet, and drilled to 5,207 feet. The well flowed 645 bbls. in 24 hours.

Magnolia Petroleum Co. made a location for No. 1 O. T. Long, C SW SE Section 20-20-2w, and Stanolind Oil & Gas Co. and Amerada Petroleum Corp. were drilling at 1,948 feet in No. 1 D. Schonwald, C SE SE Section 20-20-2w. Carter Oil Co. was building rig for No. 1 Weber, C NE SW Section 20-20-2w. These were the only new operations started. There are only four wells drilling in the pool in addition to the near completions above mentioned.

Wildcat Operations in Oklahoma

Week Ending December 2

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	T.D. 6,255 ft.; recovered tools; S.D.

BECKHAM COUNTY

Mid-Texas' No. 1 Sidell, SE SW SW Sec. 17-9-22w	S.D. 3,145 ft.
Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	T.D. 3,965 ft.
West Oak Gas Co. et al's No. 1 Powell, NW SW Sec. 11-9-25w	Set 12-in. csg. 274 ft.

COAL COUNTY

Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 2,750 ft.

COMANCHE COUNTY

Stores et al's No. 1 Crutcher, C NE Sec. 11-1n-12w	Set 10-in. pipe 18 ft.

GARFIELD COUNTY

J. H. Lewis' No. Clark, C NW NW Sec. 34-21-6w	S.G. and dead oil; T.D. 6,397 ft.

ELLIS COUNTY

Continental Oil Co.'s No. 1 Bessomer, C SW NE Sec. 8-19-20w (4,000-ft. test)	Rigging up rotary.

GREER COUNTY

Otis Cosgrove's No. 1 Border, C 8½ NE NW Sec. 31-6-22w	S.D. 160 ft.

HUGHES COUNTY

Birk-Kan.'s No. 1 Gardner, NE NW Sec. 22-6-9	Moving in rig.
Dixie Lee Oil Co.'s No. 1 Taylor, C NW Sec. 32-5-10	S.D. 350 ft.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10	H.F.W. 2,440-70 ft.

KAY COUNTY

Morgan et al's No. 1 Bush, NW NE NE Sec. 25-28-4	Drlg. 3,291 ft.
Burton Lewright et al's No. 1 Leseman, SW NE SE Sec. 4-26-2	Rig.

KIOWA COUNTY

Christian's No. 1 James, NE NW Sec. 5-7-18w	T.D. 1,904 ft.; repairing rig.

LINCOLN COUNTY

Amerada Pet. and Stanolind O. & G. Co.'s No. 1 Martinek, NW SE Sec. 35-12-5e	D.P. stuck; T.D. 3,798 ft.
Huckleberry et al's No. 1 Boland, SW cor. Sec. 25-13-3e	Drlg. 2,145 ft.

LOGAN COUNTY

Barnsdall Oil Co. et al's No. 1 Seyller, NE SE Sec. 12-15-4w	Location.
Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w	Set 15-in. csg. 130 ft.

MARSHALL COUNTY

Robb et al's No. 1 Vittitoe, NE SE Sec. 11-5s-4e	S.D. 3,315 ft. for fuel.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2	Running 8-in. pipe; T.D. 1,500 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17	T.D. 1,200 ft.; S.D. for 10-in. csg.

OKLAHOMA COUNTY

Springrose Drlg. Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1	Drlg. 5,730 ft.; in lime and shale.
H. E. Rapp's No. 1 Price, CEL NE SW Sec. 19-14-3w	T.D. 6,708 ft.; 180 bbls. in 24 hrs.; 4% wtr.
F. Russell's No. 1 Heapley, SW NW NE Sec. 23-12-3w	Wilcox sand 6,649-59 ft.; flowed 242 bbls. in 24 hrs.

PITTSBURG COUNTY

Haley et al's No. 1 Walkerson, NW cor. Sec. 9-2-16	Abd. 678 ft.
Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14	Lost tools; T.D. 3,300 ft.; S.D.

PONTOTOC COUNTY

Galbreath's No. 1 Stafford, NE SE SE Sec. 31-2-6	Drlg. 1,610 ft.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7	S.D. 1,680 ft.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6	Gilcrease sand 1,638-40 ft.; will set 5-in. pipe.
McGee et al's No. 1 Newborn, SW NE Sec. 31-5-4	Rig.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4	H.F.W. 1,977 ft.
Wirrick's No. 1 fee, SE SW Sec. 29-3-7	Acidized; flowed 550 bbls. in 24 hrs.; S.D. for tankage.

POTTAWATOMIE COUNTY

Atlantic Oil Prod. Co.'s No. 1 School land, C NE NW NW Sec. 36-10-4	T.D. 4,441 ft.; 1,700 ft. S.W.
Conley Drlg. Co.'s No. 1 Vinson, NE cor. Sec. 13-7-4e	S.D. 2,794 ft.
Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4	T.D. 3,780 ft.; csg. collapsed.
Texas Co.'s No. 1 Terfertiller, NW NE Sec. 4-8-3	Cellar.
Vivian Oil Co.'s No. 1 Kanster, SE SW Sec. 18-7-4	Set 6-in. pipe 3,926 ft.; W.O.C.S.

SEMINOLE COUNTY

Amerada Pet. Corp.'s No. 1 Parsons, 330 ft. N of S line of Lot 7, Sec. 12-11-6	Rig.
Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5	H.F.W. 3,740 ft.; abd.
Flemlee et al's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	Drlg. 1,050 ft.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 28-8-19w	T.D. 2,155 ft.; lost sand pump.

Southern Oklahoma

ATOKA COUNTY

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e	Drlg. 905 ft.
Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-2s-10e	T.D. 3,425 ft. in lime; repairing rig.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE Sec. 10-1n-20w	Drlg. 830 ft.

JEFFERSON COUNTY

Wakefield's No. 1 Kelly, NW SE Sec. 1-5s-8w	S.D. 550 ft.

PUSHMATAHA COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-6s-20e	Drlg. 410 ft.

STEPHENS COUNTY

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w	Drlg. 2,640 ft.
Navajo Oil Co.'s No. 1 Miller, NW cor. NE Sec. 13-1n-6w	T.D. 4,134 ft.; abd.
Lloyd Oil Co.'s No. 1 McKimmons, SW cor. Sec. 15-1n-4w	Drlg. 2,930 ft.
R. T. Poland et al's No. 1 Green, C NE NW NW Sec. 8-1s-4w	Drlg. 2,663 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w	Rig.

Pawnee County

The Tuttle Oil & Gas Co.'s No. 1 Walkup, CEL SW SW NW Section 36-20-7, Pawnee County, was a 25-bbl. well after a shot in Bartlesville sand at 2,800-10 feet. It will be plugged back to 2,615 feet and given another shot in the Skinner sand.

Tulsa and Wagoner Counties

Dunbar and others got a 250,000-foot gasser at 843-47 feet in No. 2 Grayson, SE NW NE SW Section 22-18-15, Wagoner County, which they shut in.

Scales & Boley's No. 1-A Vann, NE NW NW Section 1-17-15, was dry and abandoned at 980 feet.

Sheridan Oil Co. has machine in for No. 6 Snake, NE SW NW Section 26-18-15; Rachael Oil Co. has cellar dug for No. 1 Kernal, NW SE NW Section 8-17-14, near Bixby, Tulsa County, a south offset to its 250-bbl. well completed last week in Dutcher sand at 1,488-1,503 feet.

Okmulgee County

In Okmulgee County, Slater Brothers were drilling at 500 feet in No. 6 Jefferson, NW SE NE Section 19-15-12.

Carr Peterson's No. 7 Ware, SW cor. Section 9-15-14, was a 12-bbl. well at 781-816 feet. Dodge Brothers were rigging up No. 5-A Rentie, NE SW SW Section 11-15-14.

Godfrey and others' No. 1-A Harrod, CSL NW NW Section 24-15-17, found a 1,250,000-foot gas production at 1,042-53 feet, and No. 2 Harrod, CNL SW NW Section 24, was drilling at 700 feet.

Simpson and others' No. 1-A Cobb, CSL SE NE Section 6-14-17, eastern Muskogee County, was deepened to test the lower horizons. Viola lime was uncovered at 2,247 feet; Wilcox sand at 2,268-88 feet, was dry; Siliceous lime was found at 2,472-2,505 feet, yielding only a hole full of water. The test was abandoned.

Metzgar & Parkes' No. 1 Gaines, SW NW NW Section 12-14-17, was drilling at 600 feet. W. J. Metzgar was drilling at 850 feet in No. 2-A McDaniel, NE SE SE Section 6-14-19.

Penrod and others were rigging up No. 1 Fox, SE NW Section 22-13-14, Okmulgee County, to deepen it.

Oklahoma Oil Corp. and Vincent have made location for No. 1 Henry, NW SE NW Section 1-11-12.

Southern Fields

George Fisher has moved out tools from No. 1 Munson, SE NE NW Section 30-2n-9w, Comanche County, which was drilled to sand at 2,128-36 feet, total depth, without finding pay.

Navajo Oil Co.'s No. 1 Miller NW NE Section 13-1n-6w, Stephens County, was dry and abandoned at 4,124 feet.

Farlyn Oil Co.'s No. 14 Seay, 645 feet south and 986 feet east of C Section 3-7s-5w, Jefferson County, looks like a 30-bbl. well at 1,227-37 feet, and will be tested on the pump. Southern Oil Co.'s No. 10 W. D. Seay, 150 feet north and 950 feet east of C Section 3-7s-5w, is estimated good for 40 bbls. at 1,249-72 feet. It will be tested on the pump.

Owl Oil Co.'s No. 16 Wilson, SW SE SW Section 4-3s-5w, Stephens County, was good for 7 bbls. a day at 1,154-60 feet.

In the Tussey-Tatums Field, in Carter County, Walter Neustadt's No. 2 fee, SE SW SW Section 3-1s-3w, was completed. It tested 358 bbls. in 24 hours on the swab. Carter Oil Co.'s No. 1 Mary Riddle, C NW NE SW Section 4-1s-3w, swabbed 192 bbls. in 21 hours and later flowed 212 bbls. on a 24-hour potential test. It was completed.

Considerable new work was started in the southern counties in the past week. Kilgore and others' No. 1 Williams, SE NW NW Section 20-1n-2w, Garvin County, is a location; Centrop Drilling Co.'s No. 1 Little, NW SW SW NW Section 30-7s-6e, Marshall County, drilling at 180 feet; J. V. Scrivener and

(Continued on Page 64)

New Locations, Lea and Eddy Counties, N. M.; First Abandonment in Cut Bank, Montana

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Dec. 4.—Two new locations were reported in Lea County and two in Eddy County, New Mexico. Ralph Spearow's test, western Eddy County, which has had small shows of oil and gas in the big lime, is attracting attention as it nears its objective. One new location was reported in San Juan County.

S. W. Pressey's No. 1 Ojo, near an old oil seep in Huerfano County, Colo., is reported showing for a commercial gas well. Location was made for a second test. One new operation in Moffat County is spudding.

Wyoming had no new locations or completions. Ohio Oil Co.'s No. 2 A. J. Hazlett, in Carbon County, gauged 17,549,000 feet of gas with a pressure of 900 pounds on an open flow test.

One well was abandoned in the Cut Bank Field in Montana, the first failure in that pool, and one new location was reported. One new operation is starting in Fallon County.

NEW MEXICO

Lea County

Two new locations in Lea County were released by Texas Co. Its No. 4-A State, C Lot 7, Section 2-21-33, in the Lea Pool, is drilling a water well. It is an offset on the south to Texas Co.'s No. 3-A State and on the north to Cranfill & Reynolds' No. 4 State. Texas Co.s' No. 2-B State, SW Section 27-20-34, is a semiwildcat and is to the northeast of the old Marland Oil Co.'s No. 1 Flint, SE cor. Section 28-20-34, abandoned in 1929 at 3,750 feet.

The only active operations in Lea County are in the Jal area. Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, which has been blowing wild for several weeks from between the 6 and 8-inch pipe through a split in the pipe, is shut down for orders at 3,349 feet, total depth. It is blowing gas out of the cellar. The flow, originally estimated at 15,000,000 feet per day, was reported last week to have increased to around 50,000,000 feet, estimated.

Humble Oil & Refining Co.'s No. 3-A Lindley, C NW SW Section 13-25-36, is drilling out plug after cementing 7-inch on bottom at 3,335 feet. At this depth it had a show of gas. Southern Petroleum Exploration Co.'s No. 1 Ascarate, C NE NW Section 24-25-36, is rigging up.

Eddy County

Ralph Spearow and others' No. 1 McClelland, SW NW NE Section 22-22-23, Indian Creek district, 25 miles west of Carlsbad, is drilling at 4,380 feet in black lime, having had several small oil and gas shows. The location is about 10 miles northwest of Carlsbad cavern and in a district where almost no drilling has taken place.

Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, is drilling at 1,245 feet. This test is 12 miles south of Spearow's No. 1 McClelland, and is being drilled by the same interests. They have 100,000 acres blocked up on the two structures.

Western Drilling Co.'s No. 2-A Green, C SW NE Section 29-17-29, Jackson area, is drilling at 2,665 feet in lime and had a show of gas at 2,616 feet. Harry Leonard's No. 9 State, SE cor. NW Section 22-17-29, is drilling at 2,909 feet in lime and had 206,000 feet of gas per day at 2,852 feet.

Flynn, Welch & Yates' No. 67 State, C SW NW Section 10-19-28, Artesia area, is drilling at 240 feet, and Stovall & Marshall's No. 1 Mock, C SE SE Section 29-24-27, Black River district, is fishing for tools at 2,180 feet. It cut the last salt at 2,063 feet. Warren L. Todd's No. 1 Levers, C SE SE Section 25-26-29, South Eddy area, cemented pipe at 815 feet.

A new location is reported in T. D. Gibson's No. 1 Quillin, NE Section 15-19-31, East Eddy County, 10 to 12 miles south of the Jackson-Maljamar Pools and northeast of the Getty Pool.

Another location is Pecos Valley Gas Co.'s No. 8 Vandagriff, NE Section 5-17-28, Artesia area.

San Juan County

Aztec Producers, Inc., is moving in materials for its No. 2, C SE SE Section 28-30-11, Aztec district, 2½ miles north of its No. 1 State and northeast of the Oswell pumpers. Meier & Culberson's No. 1, S NE Section 32-30-11, is drilling at 710 feet, and McCoy & Phillips' No. 1 Martin, NE SE NW Section 34-30-11, is lowering pipe to shut off water at 957 feet, where it had a show of gas.

WYOMING

Weston County

Riggs Oil Co.'s No. 3, CSL SE NE Section 16-46-64, Osage Field, which picked up a sand at 3,320-31 feet showing considerable oil, was deepened to 3,350 feet without encountering any additional pay. It will be shot with 60 quarts and completed and it is estimated at 20 bbls. per day on the pump. Weston Oil Trust's No. 3, NW SE NW Section 23-46-64, cemented 8¼-inch and is waiting.

Niobrara County

Interstate Oil & Refining Co.'s No. 1 Morrell, NW NE SE Section 2-39-61, West Mule Creek, which showed for 1,500,000 feet of wet gas per day at 2,268 feet, underreamed 6⅝-inch to that depth and has resumed drilling. An analysis of the gas shows that it is inflammable and is not carbon dioxide as at first reported. The company is considering plans for marketing this gas in nearby South Dakota towns if the supply is sufficient. It is headed for a sand in the Minnelus, expected in less than 100 feet, which was productive of oil on East Mule Creek.

Natrona County

Midway Oil Corp.'s No. 1 Boyer, SW NE NE Section 23-35-79, Midway Dome, is still fishing for drill stem at 4,680 feet.

Carbon County

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, has made no new hole below 3,735 feet at which depth it showed for about 20 bbls. per day from the Mowry shale. The 8¼-inch is cemented at 2,811 feet.

Ohio Oil Co.'s No. 2 Hazlett, NE cor. Section 34-23-79, Allen Lake, which was completed two weeks ago at 2,179 feet after plugging back from 2,661 feet, gauged 17,549,000 feet per day, open flow, with a pressure of 900 pounds and testing better than 1,000 B.t.u. Rig is being moved back to No. 1 Hazlett, NE NW Section 34, which will be deepened from 1,710 feet to the Pennsylvanian.

Producers & Refiners Corp.'s No. 4 Wertz, SW cor. SE Section 7-26-89, Wentz Dome, has drilled by old hole to 3,365 feet where it cemented the 6¼-inch. It will be drilled to the Lakota. Mutual Oil Syndicate's No. 9 Dutton Creek, E NW NE Section 12-18-78, Dutton Creek, is drilling into the Muddy sand after setting the 6⅝-inch at 4,844 feet and standardizing. Cores showed 25 feet of saturated Muddy. The hole is running 35 feet higher than the two Muddy sand producers on the structure. Same syndicate's No. 9-X, approximately same location, which will go only to the Shannon, is drilling at 1,200 feet.

Hot Springs County

Empire State Oil Co.'s No. 4 Republic, NE cor. NW Section 14-44-98, Hamilton Dome, is drilling at 2,672 feet.

Big Horn County

W. O. Taylor and others' No. 1 Hoskins, SE SE Section 25-56-97, Byron district, is drilling at 1,100 feet with the 15½-inch cemented at 631 feet.

COLORADO

Huerfano County

S. W. Pressey's No. 1 Ojo, SW NE Section 10-29-69, Oak View district, is drilling at 2,270 feet and probably will continue to the Dakota series at around 3,500 feet. In a report to the state immigration department, Mr. Pressey says this well is bottomed in the Apishapa formation at 2,200 feet and is a commercial wet gas well at that depth. The report says no water has been encountered. At 85 feet there was a small quantity of wet gas and at 670 feet a small showing of oil was encountered. A strong flow of wet gas was found at 1,070 feet and another at 1,930 feet. There was another good show of gas at 2,190 feet. The above were in the Pierre.

Location has been made for No. 2 Ojo, to be drilled to the shallow gas horizons, in the C NE NE Section 4-29-69. The purpose of the operator is to develop a supply of gas for a gasoline plant to be constructed on the NE NE Section 9-29-69, where location has been made for a well for a water supply.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Section 31-36-17, McElmo district, has resumed drilling at 1,350 feet after setting 8¼-inch at that depth for a water shutoff.

Moffat County

Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12-100, Hiawatha Dome, has plugged back from 3,715 feet to 3,685 feet and is testing cement. Casing has been ripped to test a gas sand in the Wasatch formation at this depth.

Rocky Mountain Gas Co.'s No. 2 Bogenschultz, SE cor. Section 9-6n-91, Craig Dome, spudded the past week and cemented 15½-inch at 60 feet. It will go to the gas horizon at 2,800 feet in which No. 1 Bogenschultz, in the same 40, made 11,000,000 feet of gas initially.

MONTANA

Glacier County

One well was abandoned in the Cut Bank Field and one new location was reported. Steele Creek Producers, Inc.'s No. 1 Carman, C NW NW Section 19-34-5w, the first failure in the field, is pulling pipe to abandon at 2,800 feet, total depth. It had only 4 feet of Darling sand. The new location is Santa Rita Oil & Gas Co.'s No. 4 Tribal, C NW NE Section 15-35-6w.

Alberta-Pacific Consolidated Oil Co.'s No. 3 Keisel, NW cor. Section 11-34-6w, is waiting on cement after setting the 10¾-inch at 143 feet, and its No. 3 Matson, SW NW SW Section 14-34-6w, is rigging up rotary at 148 feet.

A. B. Cobb's No. 2 Walnurger, C NW SE Section 35-35-6w, which was spotted six weeks ago, is preparing to move in and go ahead. Commonwealth Petroleum Co.'s No. 1 Getty, C NE SW Section 15-34-6w, is drilling at 2,200 feet, and Lon Crumley's No. 1 Billedeaux, E NW SE Section 27-35-6w, is drilling at 2,575 feet.

Dunstall and others' No. 1 Kennerly, E NE NW Section 22-34-6w, is rigging up, and J. C. Jeffries and others' No. 1 Clark, C SW SW Section 3-34-6w, is building rig. Montana Headlight Oil Co.'s No. 2 Williams, C NE NE Section 11-34-6w, is rigged and waiting for crew.

Montana Power Gas Co.'s No. 1 Haines, C SE Section 20-35-5w, is drilling at 2,500 feet, and its No. 1 Seeba, NE cor. NW Section 2-34-6w, is drilling at 2,225 feet. Nadeau Brothers' No. 1 Van De Mar, C SE NW Section 35-35-6w, topped the Colorado at 508 feet and cemented the 12½-inch at 522 feet, and Olive Oil Co.'s No. 1 Winkler, E NW NW Section 35-35-6w, is spudding. Par Oil Co.'s No. 1 Haines, SE cor. SW Section 2-34-6w, is drilling at 2,600 feet.

Santa Rita Oil & Gas Co.'s No. 2 Cardwell, C Lot 4, Section 15-35-6w, is skidding rig from No. 1 Cardwell, and its No. 3 Tribal, C NW NW Section 15-35-6w, is building rig. Its No. 3 Yunck, C SE SW Section 14-34-6w, is rigging up.

R. C. Tarrant's No. 2 Britton, SW NW SE Section 14-34-6w, topped the Darling at 2,917 feet where it had a show of oil and landed the 6⅝-inch at 2,863 feet, and his No. 3 Britton, C NW SW Section 12-34-6w, has rig up. His No. 2 Haglund, Sr., C NW NW Section 13-34-6w, is drilling at 720 feet, and his No. 4 Haglund, Jr., C SE SE Section 13-34-6w, is drilling at 2,285 feet. Tarrant's No. 2 Miller, C SW NE Section 24-34-6w, is drilling at 2,517 feet, and his No. 1 Winkler, C SW SW Section 23-35-6w, is drilling at 2,380 feet.

Texas Co.'s No. 1 Haggerty, SE cor. Section 9-34-6w, is drilling at 1,515 feet, and its No. 1 Hunkie, NW cor. NE Section 2-34-6w, is bailing at 2,814 feet after cementing pipe and setting up Fort Worth spudder to drill in. Same company's No. 1 Purdy, SE cor. SW Section 35-35-6w, is rigging up, and its No. 1 Yunck, NW SW Section 14-35-6w, is waiting for rig builder. Its No. 1 State, C NE Section 16-32-5w, is drilling at 1,650 feet.

Fallon County

E. A. Wright's No. 1, NE SW NE Section 14-8n-69, Baker-Glendive Field, is spudding. This is an operation not heretofore reported.

JOHN WILSON DIES

OIL SPRINGS, Ontario, Dec. 2.—John Wilson, for many years prominent in the Canadian oil industry, died here on November 28, aged 78. A native of Scotland, Mr. Wilson came to Oil Springs during the second boom of 1865, and followed the oil business till his retirement five years ago.

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Drilling Is Discontinued in Wildcat in Far South End of Turner Valley Field

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Dec. 2.—In the far south end of the Turner Valley Field, Hoffar-Lundy Syndicate's No. 1 wildcat, LSD 13, Section 22-18-2w5, has discontinued drilling at 4,300 feet. The tools were still in the limestone beds below the cardium marker, indicating that even with normal conditions below this depth it would be necessary to drill to approximately 5,600 feet to reach the Blairmore, with the more important potential producing horizons, including the porous horizon of the Madison lime, beyond reach of the drill.

Hoffar-Lundy's No. 1 was the most easterly of three tests started this year about a mile southeast of the nearest producer, Mar-Jon-Freehold's No. 1 in Section 28-18-2w5. It had also reached the greatest drilling depth of the three far south tests. Drilling started last winter, and since then fairly good progress has been made, with a practical absence of drilling mishaps. The test was drilled by a closed syndicate in which Henry S. Hoffar and Frank D. Lundy of Vancouver were associated, Mr. Lundy being in personal charge of the drilling. The test since starting averaged 600 feet a month, including shutdowns, and was still carrying 10-inch casing when work was discontinued, making one of the longest 10-inch strings in the field. Some 1,400 feet of underreaming were required to carry it. Tentative location for Hoffar-Lundy's No. 2 was made last spring in the same section, but with No. 1 off structure, no further work is expected on No. 2 location.

Conditions were very similar to those in British-Dominion Oil & Development Corp.'s No. 1 deep test, drilled some years ago in the central field approximately 12 miles northwest of Hoffar-Lundy's No. 1, and which was drilled to 6,600 feet without reaching the Madison. Both tests were drilled too far to the east. Surface geology indicated LSD 13, Section 22-18-2w5, as a favorable location, but this promise was negatived by the sharp fall of the underlying formations. Conditions in Hoffar-Lundy's No. 1 are not regarded as applying to the two other far south tests, Union Drilling Co.'s No. 1 and Highwood-Sarcee Oils' No. 1, both of which are drilling in Section 21-18-2w5, some distance farther west. Further development may be undertaken by the Hoffar-Lundy syndicate in another section of the field.

Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, some distance south and west of the abandoned Hoffar-Lundy test, is reported drilling below 2,650 feet, with the log checking satisfactorily, no disturbance of faulting being indicated. Highwood-Sarcee Oils' No. 1, LSD 16, Section 21-18-2w5, north and east of the Union test and northwest of the Hoffar-Lundy well, is drilling below 2,610 feet.

Tests in the Lime

In Section 28-18-2w5, Becker Syndicate's No. 2 Anaconda, LSD 15, has encountered a considerable wet gas flow after drilling out cement plug and making about 10 feet of new hole in the lime. The test got the lime at 5,080 feet and cemented 8-inch casing at 5,100 feet. Drilling is continuing. A fair naphtha production is being recovered by drip. Separators have been installed and boilers moved back in preparation for handling a big production. Samples show the lime to be very porous at this depth.

Farther north on the structure, Sterling Royalties' No. 1, LSD 1, Section 33-18-2w5, has started drilling out cement, after cementing 8¾-inch casing at 5,001 feet. The test got the top of the lime at 4,970 feet, logging just 5 feet deeper than Merland Oil Co.'s No. 1 producer.

Mar Jon Section

In Section 28-18-2w5, Mar Jon Oil Co.'s No. 2 Kindersley, LSD 10, is reported making new hole below 4,360 feet. Spooner Oils' No. 5 Anaconda, LSD 1, same section, is drilling steadily below 1,900 feet. Pacalta Oils' No. 1, LSD 7, has new derrick finished, and is installing machinery which has been hauled from the Twin Dome location on Sheep Creek. The test is expected to be making new hole early this month. Publix Oil & Gas Co.'s No. 1, LSD 8, is shut down at 1,280 feet. Sunburst-Mid Royal's No. 1, LSD 14, is standing at 1,630 feet.

Century Royalties' No. 1, LSD 14, Section 28-18-2w5, has started work on cellar and is expected to spud in before the end of the year. Robert Wilkinson of Calgary is in charge.

South Turner Valley

On the west side of the structure, Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, is redrilling below 3,100 feet. Calgary & Edmonton's No. 2 Longview, LSD 5, Section 27-18-2w5, has drilled out cement and is making new hole below 1,000 feet.

Central Turner Valley

In the Central Turner Valley area, Okalta Oils' No. 4, LSD 8, Section 1-20-3w5, is straightening crooked hole around 2,800 feet. Midfield Oil Co.'s No. 1, LSD 9, Section 1-20-3w5, bottoming at 4,248 feet with a small crude naphtha production from the deep lime, is cleaning out and deepening to restore production.

Tests in the Foothills

In the forest reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, Township 31-10w5, is preparing to resume after running 13⅜-inch casing. The test was drilled to 2,430 feet but had to cement back to 1,880 feet on account of a crooked hole. In the old Oil City Field, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is drilling below 1,410 feet.

Border Fields

On the Alberta end of the international Dawson terrace structure, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, is reported drilling below 2,265 feet. Noncommercial oil shows were encountered in the basal Colorado recently at a reported depth of 2,170 feet. This show, it is claimed, might make a barrel of two a day, and is reported similar to showings encountered in the same horizon on the Montana end of the Flat Coulee structure.

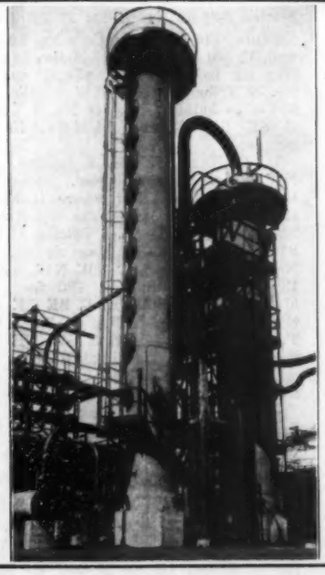
In the Red Coulee Field, Skov Oil Co.'s No. 1 Kotop, LSD 2, Section 2-1-17w4, is reported endeavoring to shut off the water below the oil pay encountered around 2,586 feet.

Duvernay Test Shut Down

On the Duvernay structure north of Edmonton, Frontier Development's No. 1 Brosseau, LSD 8, Section 36-55-12w4, has shut down for the winter after landing 13-inch conductor casing at 100 feet. Frontier Development Co. is a subsidiary of the Canadian Exploration Co. of Denver.

Pekisko Hills Test

A Calgary syndicate represented by Dr. Robin Willis has applied for a drilling permit in LSD 6, Section 6-17-2w5, on the Pekisko Hills structure, a previously untested foothills area south of Turner Valley. The nearest test is one of the old Alberta Associated wells 6 miles farther south, and apparently on a differ-



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ent structure. No announcement has been made as to when drilling will be started.

Birch Ridge Wildcat

Another important new test is being undertaken by Calgary interests on the Birch Ridge structure, where extensive acreage has been blanketed between Section 2-23-5w5 and Section 31-20-4w5. The potential structure, south of the Elbow River, extends in a southeasterly direction and some distance east of Elbow Oils' No. 1 test in LSD 11, Section 35-22-5w5. Preparations are being made to facilitate an early start next spring.

The structure was discovered and mapped by Dr. G. S. Hume of the Geological Survey of Canada in 1932. According to Doctor Hume's report, on the Birch Ridge structure, the Blairmore formation outcrops in a long narrow strip not more than a quarter mile wide. This strip is bounded on the east by a fault along which Blairmore has been thrust over Alberta shales varying somewhat in stratigraphic horizon but being for the most part just above or just below the cardium zone. Formations are estimated to include 1,600 feet of Upper Alberta; 350 of cardium and shale; 850 of Lower Alberta; 1,600 of Blairmore, and 550 of Kootenay and Fernie, with the Palaeozoic lime underlying. Discussing oil and gas prospects, Doctor Hume says:

"If the steep dip persists to depth a test located west of the fault or fault zone on the west blank of the Birch Ridge structure, as for example the well of Elbow Oils, can reach the Palaeozoic limestone at a reasonable depth and thus make a test of this possible productive horizon. In such a structure any concentrations of oil and gas in the westward dipping strata would be sealed against the fault or fault zone on the east side in any horizons that are sufficiently porous to act as oil or gas reservoirs."

After referring to a seepage which may not be significant, the report adds: "A well starting at the outcrop of the cardium band and encountering dips of 45 degrees should therefore reach the Palaeozoic limestone at a depth of between 4,000 and 4,500 feet. An excellent location for such a well is on Section 6 (6-22-4w5) on the edge of Whiskey Creek."

Oil Taxation Protested

Some difficult problems in connection with taxation of oil companies have arisen in the Turner Valley Field. Recently representatives of a number of companies protested to W. D. Spence, chairman of the Alberta Assessment Commission, and other members of the board, against a proposal to tax oil wells at the rate of 5 mills on the dollar. Under the proposal Mercury Oils' No. 1 would be assessed at $155,500; No. 2 at $158,000 and No. 3 at $160,000. Discussions between the operators and the board are reported to be continuing.

Another phase of taxation likely to affect oil operators is the agitation of owners of surface rights for a fixed scale of compensation for surface rights used in connection with drilling. At present the usual practice of adjusting "damage" by mutual arrangement is generally followed. Landowners are urging the government to fix an annual rental of $50 an acre for land used in drilling, payable in advance, with a 1 per cent royalty on production, the latter to be paid either by the operator or out of the government royalty.

Surface owners are objecting also to the assessing against them as "improvements" of the derricks and various buildings erected in connection with oil drilling operations, and are asking to be exempted on such improvements.

Companies May Merge

The recent acquisition by the Royalite Oil Co. of acreage and two producing wells of Alberta Pacific Consolidated Oils, Ltd., in Section 20-19-2w5 has revived talk of the probable absorption by the Imperial subsidiary of some of the smaller companies operating in Turner Valley. Under the recent deal the Royalite company took over Alberta Pacific acreage in LSD's 4 and 5 together with Nos. 1 and 2 producers, in return for 2,800 share of Royalite stock and a 12½ per cent interest in production. The two wells have been making around 200 bbls. a month of crude naphtha.

Earlier in the year the Royalite Oil Co. increased its authorized capitalization, since which time a part of the new stock has been used to purchase the Mayland Oil Co. and the Alberta Pacific properties. Absorption of a number of the smaller companies would enable the Royalite company to shut in wells or regulate their production to conserve and protect its gas reserves. The Royalite company has an exclusive contract to supply gas to the Canadian Western Natural Gas, Light, Heat & Power Co. from the Turner Valley Field.

Saskatchewan Gas Test

In southern Saskatchewan, Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w2, on the Dirt Hills structure, is reported making new hole below 2,700 feet, after a short fishing job at 2,614 feet.

Lloydminster Gas Test

On the eastern end of the Ribstone-Blackfoot structure, Lloydminster Gas Co.'s No. 1, near Lloydminster, Saskatchewan, spudded in recently. The test is close to the Alberta boundary and less than a mile north of Lloydminster.

The test follows fairly extensive and partially successful drilling some years ago on the Alberta end of the structure. Some 11 wells have been drilled on the Alberta side to depths ranging from 2,000 to 3,500 feet, the drilling area being about 30 miles southwest of Lloydminster. Four wells produced fair quantities of heavy crude from a sand at around 2,000 feet, but have been off production for more than a year. Calcium chloride was encountered in one test and all wells are reported to have produced more or less gas. A well is reported drilling by the Altoba Gas Co. north of Lone Rock, somewhat north of the original field.

The Lloydminster company before undertaking a commercial test drilled 11 structure tests to depth of around 500 feet. The heavy burden of glacial drift made it difficult to determine subsurface conditions, but the structure tests were helpful in selecting a location. Charles Mills, who brought in the Kinsella gas well some three years ago, is in charge of the drilling.

Turner Valley Deals

It is unofficially reported that negotiations are in progress looking to the acquisition by the Royalite Oil Co. of the leases and production of the New McDougall-Segur Oil Co., Calmont Oils, Ltd., and Wellington Oil & Gas Co. in Turner Valley. New McDougall-Segur Oil Co. holds acreage in the Central Turner Valley, in Section 12-20-3w5, and has several producing wells, two taking naphtha from the deep lime and two producing light crude from the McDougall-Segur sand above the lime. Calmont Oils, Ltd., has acreage in various parts of the field. It has two small naphtha producers in LSD 11, Section 20-19-2w5, in South Turner Valley; and unfinished tests there, and in both the Central and North Turner Valley areas. Wellington Oil & Gas Co. has a small lease and a fair naphtha producer in LSD 1, Section 20-19-2w5, in South Turner Valley.

Oil Well in Raleigh

Toward the eastern edge of the old Tilbury Field, Kent County, Ontario, a test by Ralph Dawson for Southern Ontario Gas Co., in SW Lot 3, Concession 12, Raleigh Township, is reported to have encountered a good show of oil in the Tilbury sand below 1,200 feet. There was a very little gas with the oil, but it is claimed there is no water. The oil rose 600 feet in the hole.

In the Dover Field, Kent County, Ajax Oil & Gas Co.'s No. 6, Antaya farm, SE Lot 1, Concession 4, Dover East Township, is drilling around 1,200 feet. Prairie Oil & Gas Co.'s No. 2, Stephens

(Continued on Page 64)

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Modifications to California Supplemental Code Sent to Administrator Ickes for Approval

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Dec. 4.—The committee appointed by Secretary Ickes several weeks ago to receive objections to the supplemental code of October 20 has drafted modifications which permit a more equitable distribution of the state's allowable production. A copy has been forwarded to Mr. Ickes for approval. The modifications provide that "the total amount of oil which may be produced in any month in California, as established by order of the secretary, may be produced from the several fields and pools only as approved for said fields and pools by the secretary. The agency shall recognize subcommittees in each field, which shall recommend to the agency different principles for well and property allotments within each field, or the pools therein, where such principles so recommended on account of physical conditions are fairer and more equitable than the general principles herein established, but in no case shall the principles of allotment so recommended by the subcommittees increase the field or pool allotment."

This provision will permit operators in any field to agree on any basis of curtailment with certain stipulations and may tend to increase the effectiveness of curtailment.

New Curtailment Formula

In considering objections to the original supplemental code of October 20, the committee of review endeavored to work out a formula which would eliminate as far as possible the principle points of objection. The proposed modifications stipulate that "the agency shall recommend to the Secretary of the Interior for allowance the production for each field and pool determined in accordance with the graduated potential thereof, but subject to limitations that (a) the amount of oil production allotted to any field or pool shall be limited to 50 bbls. of oil per day for each acre of proved oil land in said field or pool; (b) the amount of oil production allotted to any field or pool shall be limited to the established consumer demand from said field or pool for oil of the quality produced therein; (c) the amount of oil production allotted to any field or pool shall be limited to the amount which can be produced therefrom without unreasonable waste of gas contrary to the laws of the state of California; (d) there shall be deducted from the amount of oil allotted to any field or pool the allotment arising from the potential production of properties which are not being produced by reason of the voluntary action of the owner thereof.

"The agency shall in the first instance determine the potential production of all fields and pools, and then the potential and allotted production of the fields and pools which are subject to the limitations of Paragraphs (a), (b), (c) and (d). From the total potential of the state there shall be deducted the potential production of the limited fields and pools. From the total allotted production of the state there shall be deducted the amount of production allotted to the limited fields and pools. Thereupon the allotted production of each field and pool which is not limited shall be determined by multiplying the logarithm of potential production of said field or pool by the reciprocal of the factor obtained by dividing the logarithm of the state potential remaining after deducting the potentials of the limited fields or pools by the logarithm of the state's allotment remaining after deducting the allotment to the limited fields and pools. Notwithstanding the limitations of the formula for the fields not subject to limitation, there shall be added to the allotted production of each of said fields and pools, an additional amount of oil which may be deemed necessary to satisfy the established consumer demand for either oil or gas or both from said field or pool provided that no such allotment for any field or pool shall exceed the limitations of Paragraphs (a), (b), (c) and (d)." The fields referred to as limited fields and pools are specifically mentioned as those fields subject to the limitations designated by Paragraphs (a) to (d), inclusive.

December Quotas

Under the new setup, the December quotas, with a few exceptions, are slightly higher than the quotas applied during October and November. San Joaquin Valley fields are given a daily allotment of 174,000 bbls. during December, as compared with 172,675 bbls. per day during October and 190,565 bbls. per day during November. Fields in the Coastal division have been given a slightly lower quota during December as this division has been given an allowable of 57,450 bbls. per day during December, compared with 59,450 bbls. in October and 58,090 bbls. during November. Los Angeles Basin fields, in conformity with the tentative allocation of production, have been assigned a daily quota of 218,550 bbls. during December, compared with 224,675 bbls. in October and 213,040 bbls. per day during November. Under the new tentative schedule for December, the East Coalinga Field has been given a daily allowable of 9,700 bbls., compared with a daily quota of 14,540 bbls. during November. Elk Hills, on the other hand, has been stepped up from 9,770 bbls. per day during November to an allowable daily quota of 11,300 bbls. for December. The daily quota of the Kettleman North Dome Field has been increased from 50,800 bbls. to 54,000 bbls. per day during December, while Midway-Sunset has been reduced from 57,850 bbls. per day in November to 52,300 bbls. per day in December. In the Coastal division, the daily quota of the Santa Maria Field has been reduced from 9,910 bbls. in November to 4,750 bbls. in December, while the daily allotment of the Elwood Field has been increased from 7,770 bbls. in November to 12,500 bbls. per day in December. In Los Angeles Basin, the daily quota of Domingues was stepped from 12,450 bbls. in November to 18,000 bbls. in December, coincident with an increased allowable for Long Beach where the quota was raised from 53,550 bbls. per day in November to 56,700 bbls. daily in December. The daily quotas of Playa Del Rey and Santa Fe Springs have likewise been increased. The quotas of the fields enumerated above are subject to slight revisions but should very closely approximate their respective allowables if Secretary Ickes approves the recommended modifications to the supplemental code of October 20.

Tideland Litigation

Following a conference of several hours with Huntington Beach operators, State's Attorney General U. S. Webb expressed the opinion that "we have made some progress towards reaching a solution of the tideland situation but more study is necessary before we can call another meeting to settle the many-sided problems." This statement indicates the possibility of an early adjustment of the state's attempt to prevent the production of oil and gas from beneath state tidelands or force operators to pay a royalty to the state. State officials are contemplating adjusting the matter by prescribing a sliding scale of royalties and stipulation that operators must conform with the curtailment program. All operators in the town lot area would be afforded an immediate outlet for current production, although several companies have requested a stipulation that any action along this line shall not be deemed an approval of crooked hole drilling.

A group of Huntington Beach operators, protesting the severe reduction in production, informed the Central Proration Committee a few days ago that "action against these violators has been promised Huntington Beach operators who have been observing the code. It has been promised ever since September and nothing has been done. We who have observed the code feel we should not be made to suffer for the faults of chronic and consistent violators." Several violators of the curtailment program in the town lot area have been responsible for the recent gasoline price war by selling current production of crude oil for as low as 40 cents per barrel.

Kettleman Hills

The Kettleman Middle Dome Field, after a dormancy of approximately a year, is assuming an active status and while present plans contemplate only limited development, this work is ultimately expected to become of paramount importance. The Middle Dome Corp. is setting boilers for a new well to be drilled in Section 30-23-19 and this test, No. 73-30-V, is expected to be started within 15 days. No work has been undertaken in the Middle Dome of Kettleman Hills since completion of Standard Oil Co.'s No. 6-29-V, late in 1932, due to the delay in perfecting the future development program. Standard's initial completion in the Middle Dome was producing 504 bbls. per day at the close of November, although this does not represent its true potential as the well has been severely beaned back.

Deepest Test

The North Kettleman Oil & Gas Co. made exceptionally good progress during the past week and should be in a position to determine the potentiality of the Lillis-Welsh lease early in the new year. The company has sidetracked the fish which held up progress for several months and is rotating approximately 250 feet below the top of the fish. It is the present intention to drill ahead and land another water string just above the oil sand logged in this well at approximately 10,100 feet. No. 1 Lillis-Welsh looked exceptionally good at 10,144 feet just before a premature explosion earlier this year and would have probably resulted in commercial production if this mishap had not occurred. Union Oil Co. subsequently purchased a 50 per cent undivided interest in the Lillis-Welsh well for a consideration of $100,000 and will benefit to a substantial degree if production is developed. Superior Oil Co.'s No. 5 Huffman, a recent completion in the Kettleman North Dome Field, registered a potential daily production of 12,648 bbls. and has been given a daily allotment of 1,200 bbls. Union Oil Co. picked up the top of the Temblor in No. 4 Amerada King at 7,145 feet and is at present rotating at 7,250 feet. Standard Oil Co. topped the Felix siltstone in No. 87-3-P at 7,929 feet and encountered the top of the Whepley shale at 7,967 feet. Kettleman North Dome Association logged the top of the Temblor in No. 85-30-J at 7,412 feet and is at present rotating at 7,850 feet. In No. 76-28-J Kenda topped the upper variegated at 7,270 feet.

Lost Hills-Belridge

General Petroleum has encountered a few minor showings of oil and gas in

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Nov. 18		Nov. 11			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	116,512
Fuel oil	276,089	39,441	655,050	93,579	5,419,290	.....
Diesel and gas oil	.....	.....	26,439	3,784	1,327,048	1,133,749
Gasoline	267,344	38,192	181,821	25,974	9,984,296	7,140,951
Kerosene	.....	.....	80,035	11,434	906,294	177,062
Foreign exports—						
Crude oil	303,366	43,338	115,492	16,499	6,641,509	7,239,603
Fuel oil	151,086	21,584	84,916	12,131	6,918,581	7,212,218
Diesel and gas oil	97,146	13,877	.....	.....	2,962,035	2,327,473
Gasoline	95,738	13,677	78,621	11,232	5,023,735	7,385,743
Kerosene	65,333	9,333	26,856	3,837	1,791,997	2,634,579
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Coastwise-domestic—						
Crude oil	.....	.....	.....	.....	5,891,821	12,593,060
Fuel oil	276,955	39,565	194,310	27,744	9,323,705	10,697,468
Diesel and gas oil	1,295	185	.....	.....	921,557	1,196,737
Gasoline	195,576	27,939	53,641	7,657	11,067,733	13,430,019
Kerosene	1,767	252	8,849	1,264	173,796	149,786
Naphtha distillates	.....	.....	.....	.....	37,851	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	603,697	650,980
Gasoline	.....	.....	.....	.....	804,548	1,076,406
Kerosene	.....	.....	.....	.....	482,430	232,391
Lubricants	.....	.....	.....	.....	33,934	51,804
Foreign exports—						
Crude oil	.....	.....	77,775	11,111	1,896,661	889,923
Fuel oil	24,321	3,474	25,102	3,587	1,795,321	904,979
Diesel and gas oil	.....	.....	.....	.....	907,646	439,469
Gasoline	115,994	16,571	85,476	12,211	3,857,056	3,521,303
Kerosene	66,960	9,566	20,635	2,948	928,830	966,995
Lubricants	.....	.....	8,850	1,264	115,977	30,094
Coastwise-domestic—						
Fuel oil	186,122	26,589	77,402	11,057	3,457,726	2,713,797
Diesel and gas oil	73,818	10,321	13,104	1,872	274,745	336,118
Gasoline	206,961	29,437	90,064	12,866	3,866,202	3,511,006
Kerosene	7,976	1,139	.....	.....	106,161	128,677
Lubricants	.....	.....	.....	.....	2,751	.....

No. 1 Berry, a deep test which the company is drilling in the South Belridge Field of Kern County, and while the showings logged are not of sufficient importance to justify a production test they tend to indicate the possibility that the top of the Temblor should be encountered within the next few hundred feet. This well, which has encountered the greatest thickness of brown shale penetrated by any well in California, is the deepest well drilled in the South Belridge Field. Belridge Oil Co.'s No. 48-27, a recent completion in North Belridge, established a potential daily production of 7,025 bbls. This company is erecting a new rig for No. 30-27 to be drilled in Section 27-27-20. In the Lost Hills Field Associated Oil Co. is in a hard gray shale in No. 1 Williamson at 6,450 feet and while several showings have been logged, the well has not yet encountered a sufficient thickness of oil sand to justify the expectation of commercial production.

Mohawk Petroleum Co. has resumed drilling in No. 1 Clendennen in the Mountain View Field of Kern County following the landing and cementing of an 8⅝-inch water string. The company is rigging up rotary drilling equipment in No. 3 Hood preparatory to starting drilling. Hogan Petroleum Co., with two producing wells to its credit in the Mountain View Field, is making preparations to begin drilling on No. 1 Haley, in Section 29-30-30. Bankline Oil Co. has plugged back No. 1 Symons to retest the water shutoff on the 9⅝-inch landed at 5,887 feet and if a satisfactory water shutoff has been effected will probably resume drilling within a few days.

Union Avenue

Although Union Oil Co.'s No. 1 K.C.L. in the Union Avenue district of Kern County is not yet deep enough to pick up the pay, this area looks promising as the location of California's next field. In addition to being located at an interval of sequence between the Fruitvale and Mountain View Fields, the area looks promising because of minor showings. Union has not yet encountered the Santa Margarita but should do so within a week or 10 days. This district, despite the lack of surface evidence of structure, will bear watching. Western Gulf drilled four dusters west of Union's present wildcat but one of this quartet showed sufficient oil and gas to indicate the possible existence of a substantial accumulation in the immediate vicinity. West of the pioneer exploration work done by Western Gulf, Alta Oil Corp. has encountered some exceptionally good showings in a wildcat which it is drilling in Section 6-30-28.

In the Buttonwillow gas field of Kern County, Milham Exploration Co. is rigging up rotary drilling equipment preparatory to spudding in No. 1 Lincoln, an outpost to be drilled in Section 6-28-23. Ohio Oil Co. is making normal footage in No. 1 K.C.L., a wildcat in the extreme eastern end of Buena Vista Lake. The Ohio is drilling this test following an exhaustive geophysical survey which showed favorable results. In Fresno County, Superior Oil Co. and Western Gulf Oil Co. are rotating in their wildcats at 6,760 feet and 6,850 feet respectively. Western Gulf is building rig for No. 13-B, on the Kern County Land Co. lease in Section 22-29-27, and this, the first well to be drilled in the Fruitvale Field by Western Gulf for several months, is expected to be spudded in early in December.

Huntington Beach

Wilshire Oil Co. chalked up another well in the Seventeenth Street town lot area of the Huntington Beach Field during the week when No. 20 H. B. was brought in flowing 2,940 bbls. of clean 25.1 gravity oil and 2,900,000 feet of gas per day from 4,600 feet. Wilshire has three additional wells rigged up for work in the town lot area but has suspended drilling operations pending the outcome of litigation involving tideland development. Standard Oil Co. has concluded drilling on No. 67-B in the town lot area at 4,325 feet and is washing out perforations preparatory to conducting a production test.

Three wells were put on production in the Long Beach Field of Los Angeles Basin, although none registered substantial production. P. G. Cummings recompleted No. 7 Goodyear pumping 215 bbls. of 26.1 gravity oil per day after cleaning out the hole to 5,581 feet, but the output is still cutting in excess of pipe line requirements and may necessitate a little further work. E. C. Arnold finished No. 5 D'Angelo pumping 305 bbls. of 26.7 gravity oil per day showing a cut of 18 per cent from 5,002 feet. Equitable Oil Co. has recompleted No. 2 Signal pumping 105 bbls. of relatively clean 24.6 gravity oil per day after cleaning out the hole to bottom, 4,815 feet and finishing the well with a 6⅝-inch liner carrying 325 feet of perforated.

West Coyote

Severns Drilling Co., which took over Plymouth Oil Co.'s No. 1 McNally in the West Coyote Field of Los Angeles Basin, finished this outpost as a commercial producer early in the week, and will probably start a second well on this lease. No. 1 McNally, bottomed at 5,505 feet and finished with a 7-inch combination string, was brought in flowing 205 bbls. of 30.1 gravity oil and 180,000 feet of gas per day. Standard has four incompleted drilling wells under way in this field and should complete No. 114 Murphy Coyote, in the immediate future.

Union Oil Co. has completed No. 24 Hellman in the Dominguez Field of Los Angeles Basin and this well, bottomed at 4,925 feet and finished with a 4¾-inch liner including 422 feet of perforated, was brought in flowing 910 bbls. of 31.4 gravity oil per day. Shell is expected to complete No. 48 Reyes in the Dominguez Field during the next 15 days, as a water shutoff was effected on the 8⅝-inch water string early this week. Ohio Oil Co. is abandoning No. 13 Recreation in

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	7,150	suspended
Clayton, G. L., No. 1 Clearwater, Los Angeles Co.	31- 3-12	1,036	sd. sh. drilling
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,034	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16- 3-13	1,530	hd. sd. drilling
Sunrise Pet. Co., No. 1 Dominguez, Los Angeles Co.	3- 4-13	5,250	suspended
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7- 4-13	3,000	hd. sd. drilling
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17- 2-14	rig	rigged up
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	suspended
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,319	suspended
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,281	suspended
Universal Consd., No. 2 Montebello, Los Angeles Co.	5- 2-11	3,870	sd. sh. drilling
Universal Consd., No. 3 Montebello, Los Angeles Co.	5- 2-11	3,964	sd. sh. drilling
Midfield Oil Co., No. 1 Whittier, Los Angeles Co.	19- 2-11	977	sd. sh. drilling
Signal Pet., No. 1 Puento, Los Angeles Co.	14- 2-10	4,908	pumping test
Recovery Oil Co., No. 1 Sunset Beach, Los Angeles Co.	16- 5-11	3,400	suspended
Barstow Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,136	bailing
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	1,317	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,760	suspended
Severns Drlg. Co., No. 1 West Coyote, Los Angeles Co.	24- 3-11	5,507	210 B/D
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	1,576	cleaning out
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	5,090	cementec
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 8- 7	4,302	suspended
Saddleback Oil Co., No. 1 Trabuco, Orange Co.	3- 6- 7	80	suspended
Tehama Pet., No. 1 Santa Ana Canyon, Orange Co.	33- 3- 8	rig	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3- 9	3,350	hd. sd. drilling
Rubens, Sy., No. 1 Atwood, Orange Co.	19- 3- 9	3,015	to set pipe
Bartholomae Oil Co., No. 1 Coyote, Orange Co.	22- 3-10	2,750	to set pipe
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	2,645	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	2,150	hd. sd. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 3- 6	803	suspended
Edmonds, E. A., well No. 1, San Diego Co.	29-15- 3	649	sd. sh. drilling

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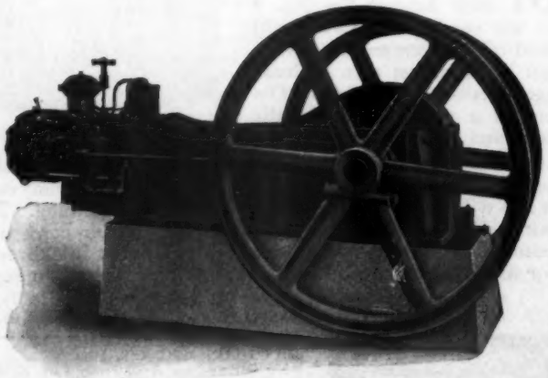

Franklin Valveless Engine Co.

Franklin, Penna.

the Playa Del Rey Field as a duster at 5,722 feet. This well was bottomed in schist but failed to core any conglomerate above the basement complex. General Petroleum has erected a rig for No. 46-A in the Santa Fe Springs Field. In addition, the company is reconditioning Nos. 15 and 16. Shell's No. 28 Slusher, has been finished pumping 105 bbls. of 28.6 gravity oil per day from 4,541 feet. Continental Oil Co. is building rig for No. 32 Bixby, in the Seal Beach of Los Angeles Basin. St. Helens Petroleum Co. is abandoning No. 1 Brown in the Richfield district as a duster at 3,784 feet. Union Oil Co., which recently completed two commercial producers in the Breen zone at Richfield, is rigging up preparatory to deepening No. 4 A.&P. to the Breen zone.

Elwood

Honolulu Consolidated early in the week finished No. 6 on tideland permit No. 90 in the Elwood Field of Santa Barbara County, and this well, brought in barefoot from 3,420 feet, registered an initial daily production of 745 bbls., the oil testing 36.6 degrees. Signal Oil & Gas Co. is still held up with mechanical trouble in No. 2 on tideland permit No. 98, a deep Sespe test at 5,016 feet, and it will probably be 15 days before the company is in a position to make any additional hole. Barnsdall is rotating in No. 8 Doty, a Sespe test at 4,600 feet, but has not yet encountered the pay.

General Petroleum has started erecting rig for No. 9 Erburu, in the Capitan Field of Santa Barbara County. This will be the first well drilled in the Capitan Field by the General Petroleum in almost a year. Monterey Exploration Co., after completing preliminary preparations to start a second test on the Hollister ranch in the Point Concepcion district, has abandoned the location and is contemplating the advisability of quitclaiming the property without undertaking any additional work. Lincoln Drilling Co. has indefinitely suspended drilling operations on No. 3 Williams, a Sespe test in the Summerland Field of Santa Barbara County, due to the unfavorable outlook at 2,303 feet. Julius Dietzmann has decided to proceed with projected work on the Williams lease and expects to drill a conclusive test despite the unsatisfactory results obtained by the Lincoln Drilling Co.

Better Days Are Coming Says John D. Rockefeller

TARRYTOWN, N. Y., Dec. 2.—John D. Rockefeller, Sr., sufficiently recovered from an attack of the grippe to eat a turkey dinner, says "better days are coming."

"As I stated on my birthday, I have just begun to live," said the 94-year-old capitalist. "Let's not forget that America has always been the land of plenty and opportunity and that better days are coming. I have always been optimistic. If I have to stay here all winter I will enjoy myself as if I were in Florida."

Mr. Rockefeller's 30-year practice of journeying south for the winter has been deferred thus far owing to his illness.

As directed by his physicians, he passed Thanksgiving day quietly, but he remarked to his son, John D. Rockefeller, Jr., that "this is the happiest Thanksgiving I have ever had." Other relatives who visited him included Nelson, David, Winthrop, and John D. Rockefeller 3rd, and Mrs. David Milton.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
General Pet., No. 9 Capitan, Santa Barbara Co.	32- 5-30	rig	rigging up
Monterey Expl., No. 2 Point Concepcion, Santa Barbara	33- 5-33	site	abandoned
Lincoln Drlg. Co., No. 3 Summerland, Santa Barbara Co.	21- 4-26	2,603	suspended
Dietzman, J., No. 1 Summerland, Santa Barbara Co.	16- 4-26	1,011	sd. sh. drilling
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-34	3,000	suspended
Barnsdall-Rio Grande, No. 8 Doty Elwood, Santa Barbara	15- 4-29	4,600	rd. sh. drilling
Signal O. & G. Co., No. 2 Elwood, Santa Barbara Co.	tideland	5,016	redrilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	3,950	suspended
Indian Pet., No. 1 Shude, Ventura Co.	tideland	4,030	sd. sh. drilling
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	suspended
Richfield Oil Co., No. 3 Rincon, Ventura Co.	17- 3-24	2,580	cleaning out
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	3,150	sd. sh. drilling
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	rig	rigged up
Driggs Pet., No. 1 South Mountain, Ventura Co.	17- 3-20	2,310	recemented
Kneiper & Atha, No. 2 Bardsdale, Ventura Co.	7- 3-19	1,360	fishing
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	790	suspended
Dabney, H. R., No. 1 Simi, Ventura Co.	22- 2-18	1,091	suspended
C. C. M. O., No. 3-A San Miguelito, Ventura Co.	23- 3-24	4,166	suspended
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,830	suspended
Laing & Jacobs, No. 1 Shiells, Ventura Co.	32- 4-19	rig	rigging up
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	1,200	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,714	br. sh. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	5,115	gr. sd. drilling
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,910	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Milham Exploration Co., No. 24 Buttonwillow, Kern Co.	6-28-23	rig	rigging up
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,982	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	9,860	br. sh. drilling
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	3,172	suspended
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	6,460	sd. sh. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	1,470	br. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	suspended
Carribou Record Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	rig	rigged up
Bankline Oil Co., No. 1 Kern Front, Kern Co.	28-28-27	mtl.	building rig
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26	3,318	sd. sh. drilling
Caravel Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,501	suspended
Union Oil Co., No. 1 Union Avenue, Kern Co.	15-30-28	5,275	sd. sh. drilling
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28	4,900	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	29-30-29	5,910	suspended
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	5,863	70 B/D
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	29-30-29	rig	rigged up
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	6,088	test W.S.O.
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	6,444	suspended
Labadie, E. L., No. 1 Mountain View, Kern Co.	29-30-29	....	foundation
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	5,906	recemented
Mohawk Pet., No. 3 Mountain View, Kern Co.	30-30-29	5,582	cleaning out
Mohawk Pet., No. 4 Mountain View, Kern Co.	30-30-29	rig	rigged up
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	153	sd. drilling
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	4,490	sd. sh. drilling
Gatton & Luethe, No. 1 Madera, Madera Co.	32-10-17	3,020	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11	3,900	test wet
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	13-12-11	4,279	fish D/P
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-15	5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,320	suspended
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	6,380	sd. sh. drilling
Roscoe, D. L., well No. 1, Fresno Co.	36-16-14	rig	suspended
Hogan Pet. Co., No. 1 Joaquin Ridge, Fresno Co.	28-20-16	6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16	6,778	hd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo	3-22-32	3,830	suspended
Willet Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	rig	rigging up
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., well No. 3, Kings Co.	10-23-19	1,205	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Dudley Dome Oil Co., well No. 2, Kings Co.	9-23-20	370	cemented
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-21-22	3,149	suspended
Douglas, J. M., well No. 1, Monterey Co.	36-22- 9	rig	rig cable tools
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,750	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,760	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 2	5,320	drill out cmt.
Buttes Oilfield's Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,731	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutetr Co.	35-16- 1	4,136	sd. sh. drilling
Tehama Pet. Co., well No. 1, Glenn Co.	4-23- 5	4,696	redrilling

Michigan Operators Facing Probable Reduction as Other New Producers Are Completed

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Dec. 2.—Michigan operators face a probable reduction to 10 per cent proration of all production over a 100-bbl. exemption as the result of large new producers eligible to be turned into the pipe lines during the coming week, it was indicated in reports from Mount Pleasant offices of the state proration committee.

Five new producers, one of which extended the new upper Traverse Pool in West Branch Township, Ogemaw County, about 2½ miles west of the two wells on the discovery Wilcox lease, added more than 2,500 bbls. of new initial, sending the State's daily potential to about 120,000 bbls. and opening a large new territory for increased drilling in the Ogemaw Pool about 60 miles north of the Mount Pleasant Field.

Daily runs for the week jumped nearly 3,000 bbls., from 29,550 to 32,292 despite a reduction of 1,000 bbls. a day of the State's allowable from 30,000 to 29,000 bbls. effective December 1. The increase in daily runs was attributed to the resumption of operations by the Simrall Pipe Line Corp., second largest in the State, to storage tanks at the Roosevelt Refinery Co. plant in Mount Pleasant now being rebuilt after a $75,000 fire.

The Michigan Oil and Gas Association, which this week held its annual meeting in Mount Pleasant, is planning more energetic efforts to aid producers in obtaining an increased allowable by the employment of a full-time secretary and other means.

Ogemaw Producer

Most important of six new completions this week was Theodore Oil Co.'s No. 1 Ogemaw Country Club, SE SW SE Section 20-22n-2e, West Branch Township, Ogemaw County, which came in for 50 bbls. a day at a total depth of 1,774 feet. Pay sands of the upper Traverse were struck about 12 feet higher than in Alvin Webber's No. 1 Wilcox in Section 34, same township. The Country Club well is expected to be at least doubled in flow by acid treatment as Nos. 1 and 2 Wilcox tripled from about 300 to 900 bbls. a day with treatment.

Two wells in West Branch Township and one in Mills Township which were unsuccessful in the upper Traverse limestone are now drilling to the Dundee about 400 feet deeper, while three other new wells, two in West Branch Township and one in Ogemaw Township have been started and a new location in West Branch is included in the permits this week.

C. A. Perry's No. 1 Wobig heirs, SW SW NE Section 6-21n-3e, Mills Township, which struck water last week at 1,892 feet, was reported to have had a show at 1,684 feet, in the upper Traverse, with the Berea topped at 1,148 feet. George Elliot's No. 1 Aloysius Meir, NW SW SW Section 22, West Branch Township, was nearing the Dundee, drilling at about 2,000 feet.

The largest of four new oil wells completed this week for an aggregate of 2,520 bbls. a day initial, was Pure Oil Co.'s No. 1 Floyd Youngglove, NE NE SW Section 17-13n-1w, Porter Township, which made 65 bbls. an hour, or about 1,500 bbls. a day. Dundee limestone was topped at 3,364 feet in the Youngglove with pay sands at about 3,390 feet.

Vernon Township

Two new wells, each good for about 450 bbls. initial, were completed in the Vernon Township Pool: Ide Oil & Gas Co.'s No. 1 E. Willey, SW NW NW Section 22-16n-4w, and Mammoth Petroleum Co.'s No. 2 A. and A. Thayer, NE SW Section 23.

Pure Oil Co.'s No. 2-A Ira E. Bond, NW NW NE Section 18, Porter Township, was good for about 120 bbls. a day after being plugged back to 3,444 feet from a total depth of 3,447 feet. This small producer in the flush Porter Pool was in marked contrast with Pure's No. 2 W. W. Hoyt, in Section 17, brought in last week as the State's record well, estimated at 20,000 bbls. a day from the Dundee. In a test of its capacity, No. 2 Hoyt gauged 900 bbls. an hour flowing at the rate of 21,600 bbls. a day. It will be shut in until December 7 when a 15-day period will be over and it will be allowed to produce 15 or possibly 10 per cent of potential over the 100-bbl. minimum depending upon the action of the Michigan Proration Committee.

Five more wells in Porter Township were drilling into the Dundee with prospects of large initial as the week closed. They were: Pure Oil Co.'s No. 1 W. Neitzke, SE NE SE Section 17, drilling with a hole full of oil from the upper Traverse; Pure's No. 5 Charles Hill, NW SE NW Section 18; George H. Hammer's No. 1 George Hathaway, SE NE NE Section 17; Stork Oil Co.'s No. 3 C. E. Baxter, SW NW NE Section 22, and M. D. and R. A. Wells' No. 1 W. G. Williams, NE NE NW Section 22.

Three Vernon Township drilling wells also were nearing the Dundee pay: Garfield Oil & Gas Co.'s No. 1 Verett, Section 23; J. V. Wicklund's No. 3 Dan Carmichael, SE SW NE Section 22, and Mammoth Petroleum Co.'s No. 4 A. and A. Thayer, SE NW SW Section 23.

Broomfield Township

Pure Oil Co. completed a small gas well in the Michigan series on the Fred Winters and others lease, C NE SW Section 10-14n-6w, Broomfield Township, making 500,000 feet a day. Increased in-

(Continued on Page 63)

Field Work Continues Active in Central West; Four Completions Reported in Kentucky

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Dec. 4.—The Central West Field is holding its own in work completed and new work starting, due to the good weather conditions, and operators are putting their leases in good shape for the winter. In the old Lima Field of northwestern Ohio, Keiner and others' No. 2 on the Gottlieb Seiler farm, Section 34, Crane Township, Wyandot County, produced an initial of 30 bbls. from the Trenton lime at 1,376-98 feet. Maese Oil & Gas Co.'s No. 2 on the Mary Sampson farm, Section 20, same township, is a dry hole. Upper Sandusky Oil & Gas Co.'s No. 3 on the Mary Loverick farm, Section 28, same township, is a gas well from 1,322-49 feet. Jones & Coyle are starting a test on the Edith A. Swerline farm, Section 21, Tymochtee Township, same county.

In Mercer County, Franks & Quinter's test on the Casper Reier farm, Section 35, Granville Township, is a light gas well. A. M. Collins and others' No. 4 on the C. L. Lemunyon farm, Section 25, Union Township, did but 1 bbl. of oil as did A. A. Lauber's No. 1 on the Oliver Johnson farm, Section 34, Butler Township, same county.

CENTRAL OHIO

The Central Ohio Field had a large week in finding gas producers, along with dry holes and a few oil producers, and the work continues very active.

In Ashland County, Ohio Fuel Gas Co. has a gas well in No. 2-3855, on the Nancy L. Welsh farm, Section 9, Green Township. Stewart and others found a dry hole in No. 2 on the D. G. Chandler farm, Section 4, Lake Township, same county.

In Medina County, Preston Oil Co.'s No. 1 on the C. A. Dague farm, in Lot 1, Leitchfield Township, produced an initial of 20 bbls. from the Berea sand from 248-333 feet.

In Lorain County, Ohio Fuel Gas Co. drilled a dry hole on the John Rising farm, Lot 95, Grafton Township.

In Wayne County, John Harpster is shut down on the E. and F. Beichler farm, Section 6, Chippewa Township. Hulse and others made a location on the F. P. Rice farm, Section 19, Chester Township, same county.

In Summitt County, Wiser Oil Co. is drilling No. 2 on the Dayton A. Doyle farm, Section 5, Springfield Township.

In Fairfield County, Ohio Fuel Gas Co. is drilling No. 4-5,773 on the Homer Dupler farm, Section 12, Berne Township. City Natural Gas Works has a rig in for No. 2 on the Jesse Shull farm, Section 1, same township.

In Knox County, Preston Oil Co. made a location for No. 2 on the A. J. Beatty farm, Section 1.

In Coshocton County, Kuntz-Hulse, Inc.'s No. 3 on the Rolla McKee farm, Section 17, Perry Township, produced an initial of 52 bbls. from the Clinton lime formation from 3,020-68 feet. Murphy and others are drilling No. 3 on the Ward Little farm, same section, and Preston Oil Co. has a location for No. 2 on the A. Van Winkle farm, same township. Same company made a location for No. 2 on the R. L. Cochran farm, in Newcastle Township. Pure Oil Co. is drilling No. 1 on the Arthur C. Eppley farm, Section 5, Clark Township, same county.

In Licking County, Everette Gas Co.'s No. 5 well on the Felix Claypool farm, Section 7, Hanover Township, produced an initial of 40 bbls. from the Clinton lime from 2,831-71 feet. Ohio Fuel Gas Co. is drilling No. 1 on the Jones farm, Section 12, Mary Ann Township, same county. Upham Co. is drilling No. 2 on the Charles Babcock farm, Section 14, Fallsburg Township, same county.

In Athens County, C. & M. Oil & Gas Co.'s No. 1 on the Charles Cole farm, Section 4, Carthage Township, is a dry hole at 1,335 feet. Ohio Fuel Gas Co. is drilling No. 1-5,770 on the Cora M. Evans farm, in Fractional Section 23, Lodi Township, same county.

In Muskingum County, Atha Co.'s No. 1 on the Charles Tumblin farm, in Perry Township, is dry. Same company has a gas well on the Grover C. Wilson farm, in Washington Township. Murphy and others are drilling No. 3 on the Ward Little farm, in Jackson Flowers farm, Section 14, is a gas well in the Clinton lime below 3,200 feet.

In Portage County, Brendel Producing Co.'s test on the W. J. Lynn farm, Lot 50, Deerfield Township, was dry.

In Tuscarawas County, Gordon Oil Co. and others are drilling No. 3 on the Martha Carroll farm, Lot 32, Washington Township.

In Stark County, East Ohio Gas Co.'s No. 3 on the John Wyles farm, Section 13, Jackson Township, is a gas well from 4,398 to 4,418 feet. Brendel Producing Co.'s No. 1 on the H. and L. Schriver farm, Section 10, same township, is a gas well from 4,359-82 feet. Same company's No. 2 on the Henry Huthmather farm, Section 11, is a gas well in the Clinton lime from 4,392-4,422 feet. Same company has a rig in for No. 2 on the Samuel Williman farm, Section 10, same township, and Sisler and others are drilling No. 6 on the Eva M. Sisler farm, Section 22, same township. East Ohio Gas Co. has a rig in for No. 1 on the Frank A. Goldsmith farm, Section 14, Plain Township, same county.

In Belmont County, Robert Lewis and others' No. 3 on the J. H. House farm, Section 32, Warren Township, is a gas well at 612 feet and in the Cow Run sand. Robert Morgan and others' No. 2 on the William L. Boyd farm, Section 15, Union Township, is a gas well at 1,050 feet.

In Guernsey County, J. T. Roach's No. 3 on the Jennie Rose farm, Section 20, Willis Township, is a gas well.

INDIANA

Only one completion was reported from the Indiana Field, being Pierson, Yeager and others' No. 1 in the southwest corner of the J. R. Wilson farm, mapped as the Fred Pollock farm, Section 8, Prairie Creek Township, Vigo County, which was dry.

H. C. Darby and others are drilling on the James Sweet farm, in the NW Section 22, Union Township, Spencer County. Daugherty & Stinson are drill-

ing No. 4 on the Arthur Ray farm, Section 11, Huff Township, same county. Finley E. Black is drilling on the J. J. Stroble farm, SE Section 20, Carter Township, same county.

Frank Rhodes is reported drilling north of Prescott in Addison Township, Shelby County.

KENTUCKY

Four completions were reported from the Kentucky fields, the only producer being Union Pipe Supply Co.'s No. 32 on the C. G. Davenport farm, 3 miles west of Bowling Green, which had an initial of 20 bbls. at 440 feet. In the Greenville Field of Muhlenberg County H. K. Oil & Gas Co.'s No. 1 on the C. V. Bogess farm was dry.

In the Newton Pool, in Ohio County, Kemrow-Cumberland Co.'s No. 3 on the O. H. Kirk 34 acres was dry at 385 feet, and Hupp & Duff's No. 1 on the Herman Fuqua farm, same pool, was also dry at 600 feet.

ILLINOIS

No completions were reported from the Illinois Field. In Crawford County, Oblong Township, Ohio Oil Co. abandoned Nos. 1, 2, 3 and 4 on the J. L. Berryhill, Section 9.

Cambria County, Pa., Drilling Retarded; New Tests in Gilmer County, W.Va.

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Dec. 4.—Completions in the lower Eastern fields consisted of six gas wells and four producers with an initial production of 66 bbls. There were also three dry holes, all drilled as tests. In spite of the lateness of the year, there is still a fair amount of new work being started and more producers are being completed. Refinery demand for crude continues strong.

In the interesting test drilling in Cambria County, Pennsylvania, by White Mill Oil & Gas Co. on the Adams estate along Route 422 between Belsano and Strongstown, fair progress was made until the tools struck a hard blue limestone at about 4,000 feet. There, drilling was retarded and only about 6 feet was made in as many hours. Drilling is being continued and the log is being studied to correlate the structures. It is believed that the Speechley and Bradford series have been passed.

WEST VIRGINIA

Two producers and four gas wells were completed in West Virginia. One of the producers was the result of drilling deeper an old gas well and resulted in a fair well. In Curtis district, Roane County, the Reedy Oil & Gas Co. drilled deeper its No. 5 on L. M. Riddle farm from the Salt sand to the Squaw sand and has a showing for 25 bbls. a day. The Riddle farm is 140 acres.

In Tyler County, Hess Oil & Gas Co. completed a test on the Homer Hess farm in Union district in the Cow Run sand at 794 feet. It is good for 1 bbl. a day.

In Calhoun County, two wells were completed. In Sherman district, F. F. McIntosh completed a second test on the O. S. Bennett farm in the Injun sand at 1,867 feet. It is good for 150,000 feet a day, natural. In Lee district, Southwestern Gas Co. completed its No. 3 on the John Slider farm in the Injun sand and it will make a small gas well.

In Doddridge County, William Droppleman and others completed the best well for the week. It was drilled on the Mary J. Minear farm in Central district and was No. 2 on that farm, about 600 feet east of No. 1. It was completed in the Injun sand at 1,980 feet, and is good for 500,000 feet a day with about 7 bbls. of oil.

In Ritchie County, Ralph B. Roberts completed a test on the Thomas Maloy farm in Grant district in the Maxon sand at 1,573 feet. It is a light gas well with about 1 bbl. of oil a day.

Drilling in West Virginia

Second in importance to the Lost Run Pool in Clay district, Ritchie County, are the new tests starting down to the Berea sand in Center district, Gilmer County. There the Hope Construction & Refining Co. found about 100 bbls. a day in that formation in deepening its test on the Mary A. Stump farm. South Penn Oil Co. is drilling its No. 1 on the Flora S. Bennett farm from the Injun sand to the Berea. Chartiers Oil Co. is starting its No. 11 on the Daniel Huffman farm down from the Maxon sand to the Berea. In this district, C. W. McCall and others have reached 1,500 feet on the J. M. Taggart farm of about 10 acres. There are quite a few wells in this vicinity which are old gassers in the Maxon sand which will be affected by the finding of additional production in the Berea. In DeKalb district, Charles Despart and others have reached 515 feet on the M. L. Amos and others lease, and Clem Morris and others are about in the Injun sand in No. 3 on the Cora B. Gainer farm. A. E. Ellis and others are building a rig for No. 4 on the Webster and Ware lease and have the material on the ground for their No. 3.

In Clay district, Ritchie County, the Lost Run Pool, four wells are drilling and other work is in progress. R. E. Bills and others have started drilling a test on the Vincent heirs farm, adjoining the Hinton farm. Thomas Davis and others have started drilling their test on the William R. Kibbie farm east of the present Injun sand streak. Richards Farm Oil Co. is down 770 feet in No. 3 on the Corlie Ball farm. Elder and Louden have reached 1,200 feet in No. 4 on the S. E. Satterfield farm. G. B. Hendershot and C. B. Smith have completed a rig for No. 3 on the Charles H. Frederick farm. It is about 300 feet north of their No. 1. Permits have been issued for two additional wells on the Sada B. McGinnis farm, north of the Frederick farm, and on which the initial test proved dry, although located on a due line of production to the south. C. F. Vincent and others are drilling No. 3 on the Biddie Fox farm. The Lucky Strike Oil Co. has a rig standing on the Daugherty farm, and Lucas and Mahaney a rig for a second test on the J. F. Kelly farm.

In other parts of Ritchie County, new work is being continued. W. H. Bickle has a rig standing on the John H. Hyman farm. A permit has been issued to the Big Run Oil Co. for a test on the Bertha Gilmore farm. On the waters of Leatherbark Creek, Dr. S. M. Prunty has a rig on the M. L. Bollinger farm. On the same stream, the Four Point Gas Co. has made a location on the James T. Johnson farm. About 1¼ miles southeast of the fair test on the Connelly heirs farm on this stream, Dr. Clem Morris has made a location on the F. B. Strothers farm. The Welch Farm Oil Co. is drilling deeper its No. 1 on the Daniel E. Eddy farm and has reached 1,870 feet. Ira Roberts and others have a rig standing on the W. T. Baker farm. All of these are in Murphy district. In Grant district, Lucas and Mahaney have a rig standing on the Van Martin farm. The Big Four Drilling Co. is fishing at 1,695 feet on the D. C. Newbough farm. In Clay and Grant districts, John Deem is shut down at 1,880 feet on the C. M. Welch farm.

In Doddridge County, Clifton Oil & Gas Co. is drilling at 900 feet on the F. M. Williams farm in Grant district on the waters of Israel Fork of Big Flint. On Alum Cave Run in Jefferson district, Pleasants County, M. Bougher and others have started drilling a second test on the W. E. Bier farm. In Lafayette district, Locke-Simonton and others are drilling at 200 feet on the Sarah Watson farm.

In Tyler County, Ohio Oil & Gas Co. is down 1,350 feet on the Emerson Hill farm in Meade district. In Wirt County, Peter Silman has a permit on the Hale heirs farm in Clay district. In Wood County, Warren Reed is down 1,000 feet on the David McAllister farm.

In Roane County, Frank Finley has started drilling on the W. Hunter Smith farm in Geary district. In Curtis district, Henderson Oil Co. has made a location for a second test on the F. L. Ball farm and one on the George L. Ball farm. In Smithfield district, Ohio Valley Gas Corp. is drilling at 1,650 feet on the Josephine Young farm.

In Calhoun County, a permit has been issued to D. R. Fowler on the Fred Robinson farm, Sherman district. In this dis-

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trict, Poling and Mollahan are about due in the Injun sand on the F. M. White farm and are down 1,850 feet in No. 2 drilling on the Almetta Wilson farm. In Center district, L. P. Bickel has made a location for No. 13 on the Martha Stump heirs farm. M. V. Burt and others are due in with their test on the Beeman Wright farm, the depth being 2,428 feet.

In Monongalia County, Manufacturers Light & Heat Co. has been issued a permit on the Alexander White farm, Battelle district. In Wetzel County, this company has a permit for a well on the D. W. Stewart farm in Church district. In Clay district, the Browns Run Gas Co. is down 1,666 feet in a second test on the James Marshall farm.

SOUTHEAST OHIO

In Southeast Ohio, two producers and one gas well were completed. There were also three tests which resulted in dry holes. In Licking County the Park National Bank of Newark, Ohio, and others drilled No. 4 on the Samuel Mossholder farm in Section 14, Fallsbury Township, in the Clinton sand, depth 3,034 feet. It produced 30 bbls. the first day after shot.

In Monroe County, John Lumbatis and others completed a test on J. B. Hawkins farm in Section 2, Franklin Township. It was drilled in the Berea grit at a depth of 1,905 feet and is showing for about 10 bbls. a day, after shot.

In Muskingum County, Atha Oil Co. drilled a test on the Grover Wilson farm in Washington Township through the Clinton sand to 4,040 feet. It has a showing of only 30,000 feet of gas a day. In the SW cor. of Section 16, Union Township, the same company drilled a test on the Clyde Tumblin farm through the Niagara lime to 4,260 feet. It was dry.

In Noble County, D. J. Peaker and others drilled a test on the F. J. Brinkmier farm in the NW of Section 33, Enoch Township. It was drilled to 740 feet and found the Macksburg 500-foot sand had but a very small showing of oil with no gas and the sand broken. It was abandoned.

In Vinton County, Kachelmacher estate and others drilled a test on the Lafe Eggleston farm near New Plymouth in Section 36, Brown Township. It found the Grit dry at 976 feet and was abandoned.

SOUTHWEST PENNSYLVANIA

One well was completed in Southwest Pennsylvania. In Hanover Township, Washington County, Carnegie Natural Gas Co. drilled its No. 1 on the J. C. Baim farm deeper from the Coal to 2,950 feet, the Fifth sand. The top of the structure was at 2,898 feet, with gas showing at 2,903-09 feet. The gauge was 369,000 feet a day.

Near Charleroi in Speers borough, Washington County, the Greensboro Gas Co. has made a location along the Bellvernon anticline on the Warner Youghiogheny Coal Trust. There are two fair gas wells east of the location.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is drilling at 1,200 feet on the Fred Baumberger farm. This company has the rig completed on the O. W. Dunn farm, and the timbers on the ground on the John C. Murphy farm. Wise Oil & Gas Co. has completed its rig in this township on the Roach farm.

In South Franklin Township, E. H. and J. B. Tague are continuing their Dunkard sand operations with No. 8 on the Adaline D. McKennan estate which is drilling. In Somerset Township, Ellwood Oil & Gas Co. is down 2,680 feet on the Mansfield farm.

In Greene County, Richhill Oil & Gas Co. has started drilling on the P. W. Gribbin farm in Richhill Township. In Dunkard Township, Union Gasoline & Oil Co. has started drilling on the Floyd Lynch farm. In Richhill Township, Myers, Hoskinson and others are down 1,020 feet on the J. N. Clutter farm. In Greene Township, John Lantz is fishing at 320 feet on his own farm. In Dunkard Township, Convex Glass Co. is building a rig on the C. N. Miller farm.

Michigan Fields

(Continued from Page 61)

terest in the gas marketing possibilities of Michigan was indicated by the issuance of a new permit to Isabella Oil Development Co. for No. 4 on the Keeler-Mitchell lease, NW SW Section 10, Broomfield Township.

A new location in Ogemaw County is Dr. C. L. Hess' No. 1 J. W. Richards, SE SW SW Section 27-22n-2e, West Branch Township. Six other permits were issued, three in proved fields and three in wildcat areas.

C. J. Sipple already has started drilling on Adolph A. C. Mayer's No. 1 William B. Lidke, SE SW Section 16-13n-16w, Otto Township, Oceana County, a new western Michigan test.

John Blake's No. 1 Duncan McIntyre, NE NW NW Section 1-7n-16e, Clyde Township, St. Clair County, and Maynard L. Smith's No. 1 Gilbert Proulx, NW SW SE Section 12-19n-6e, Augres Township, Arenac County, are other new wildcat locations.

Oceana County

Two Oceana County oil wells have resumed production at the rate of about 100 bbls. a day each in the upper Traverse formation after second acid treatments this week, it was reported today by H. C. Nelson, independent operator.

The two rejuvenated wells are Mr. Nelson's No. 1 A. Doolittle and No. 1 Anna Copenhaven, the one located NE SE and the other SE NE Section 36-15n-17w, Hart Township.

A second treatment of acid also will be put in the No. 1 Carrie E. Mears well, SE NE Section 36-15n-19w, Golden Township, Oceana County, first wildcat drilled in the county nearly five years ago by Edward DuVall, independent operator, over the week-end. The Reed Oil Co. recently reopened this well for the Eureka Gas & Oil Co., both of Musgegon, in an attempt to make it a producer in the upper Traverse. Indications are that it will be a small producer from a show struck 1,576 feet in 1929.

Burt W. Purdy and Marshall Bench's wildcat on the Frank Morrison lease, E SW Section 2, Hart Township, about 5 miles north of the proved field, is reported drilling at about 1,700 feet with prospects of reaching the upper Traverse limestone next week.

Six other tests, three in the proved field and three on wildcat locations, are now active in the county.

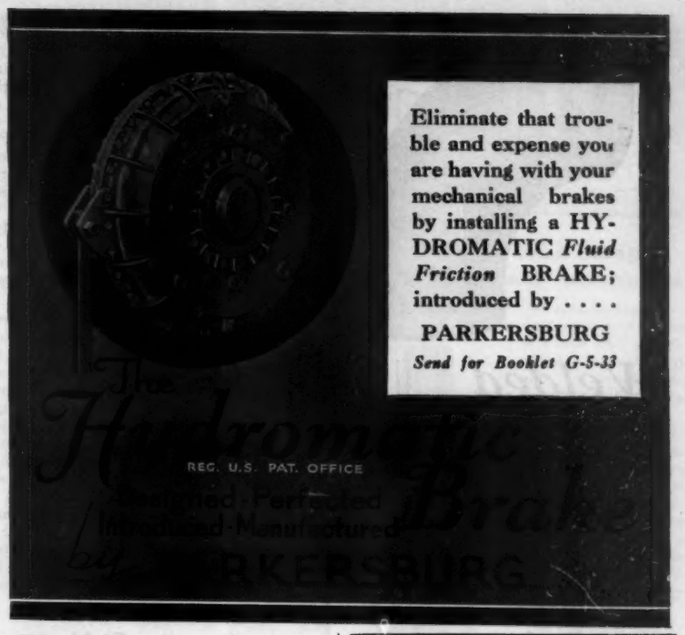
Mr. Nelson has landed drive pipe in his No. 1 fee, NE SE Section 36, Hart Township, and A. S. Cochran is driving pipe on Clarence Johnson's No. 1 Oceana Center Grange, located 66½ feet north in the same quarter section. Mr. Nelson also is driving pipe in this No. 1 Myrtle Spitler and others, SW SW NW Section 31-15n-16w, Elbridge Township, the third well in the proved area.

James E. Flanagan has started his No. 1 Frank Mast in the northwest quarter of Section 36, Hart Township, a half mile west extension test.

Two wildcats have more than 200 feet of drive pipe in as follows: Jetter Oil Co.'s No. 1 Delbert Swinton, N SW Section 11-14n-16w, Ferry Township, about 5 miles southeast of production and the new Adolph A. C. Mayer No. 1 William B. Lidke, SE SW Section 16-13n-16w, Otto Township, near Fruitvale being drilled by C. J. Sipple on a permit issued this week.

Michigan Association

The Michigan Oil and Gas Association elected 13 directors including representatives of all branches of the industry at its annual meeting in Mount Pleasant this week. The following were chosen: Fred Turner, independent producer; Hunter D. Atha, head of Atha Oil Co.; Walter L. McClanahan, president of McClanahan Oil Co., Mount Pleasant; Howard Atha, vice president of Gordon Oil Co.; Charles L. Magyire, head of the Roosevelt and Theodore Oil companies, the former operators of the Roosevelt refinery in Mount Pleasant, and the latter an operating company; Haswell Grant.



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P. O. Box 485, Chicago
50 Church Street, New York

TAYLOR FORGE

SEAMLESS STEEL FITTINGS FOR WELDING

first president of the association and attorney for the Michigan Gas & Oil Co., of Mount Pleasant; Edward Stewart, producer in the Muskegon and Mount Pleasant Fields; Dr. Virgil R. D. Kirkham, geologists; George Talbot, head of Talbot Oil Co.; James C. Graves, of Saginaw, chairman of the Michigan Petroleum Proration Committee and an officer in Goll-Graves & Mechling, producers; P. Del Valle, of Saginaw, Pure Oil Co. executive; George Meyers, of Toledo, Ohio, geologist and land man for Sun Oil Co., and C. N. Sessions, of Muskegon, a director of Reed Oil Co. and representative of other western Michigan operators.

The association adopted the recommendations of Doctor Kirkham establishing three classes of membership, namely: (1) Producing companies, dues one-eighth of a cent per barrel of production; (2) nonproducing companies, holders of acreage but not yet producers, $100 a year dues; (3) individuals such as drilling contractors, rig builders, tank builders, supply store officials, geologists and others, dues $5 a year. The association plans a budget of $10,000 a year and the appointment of a full-time paid secretary. Two more directors will be chosen later to complete the board of 15 which will elect its own officers at an early meeting.

Canadian Fields

(Continued from Page 57)

farm, Lot 2, Front Concession, Dover East, is drilling around 500 feet.

In Raleigh Township, Kent County, Olga Oil & Gas Co. of Toronto, will put its three producers on the pump. They are reported showing considerable oil. Producers Oil & Gas Corp.'s No. 1 Earl Flook is also on the pump.

Dawn Gas Field

In the Dawn Field, Lambton County, Union Gas Co.'s No. 69, Lot 24, Concession 5, Dawn Township, has finished as a small gasser, bottoming at 2,041 feet. Union's No. 70, Lot 24, Concession 1, Dawn Township, has spudded in.

In Elgin County, Union Gas Co.'s No. 1 Aldborough, Lot D, Concession 10, Aldborough Township, is reported drilling below 400 feet. It has apparently got a structural high.

After a shutdown of several months, drilling operations have been resumed at the wildcat test of the Hockley Valley Oil Co., about 7 miles east of Orangeville, Ontario. The test has been drilled approximately 2,500 feet, and will be continued to 4,000 feet if necessary. Ogletree Brothers of Cooksville are handling the drilling.

DEATH OF CHARLES SHUMAKER

Charles Shumaker, retired president of the old Crescent Pipe Line Co., died at his home in Meadville, Pa., November 19, at the age of 77 years.

Mr. Shumaker was born in Meadville in 1856. He learned telegraphy as a youth and entered the employ of what later became the Erie Railroad. He rose to be a train dispatcher, but 35 years ago resigned to enter the service of the National Transit Co., as paymaster on a new pipe line extension.

When the line was finished Mr. Shumaker was made manager of the Bradford office of the National Transit Co., and later was made president of the Crescent Pipe Line Co., one of the Standard group of lines in the Eastern fields.

Mr. Shumaker was retired at 69 years and the line was discontinued. Since that time he had been living quietly in the city where he spent his earlier years. Mrs. Shumaker preceded him in death by several years, but three sons and one daughter survive: Charles O. Shumaker of Tulsa; Ray F., of Independence, Kans., John F., of Pittsburgh, and Miss Bessie M. Shumaker of Meadville. The funeral was attended by many of his old associates in the oil transportation business.

WAS NOT MR. MELAT'S PICTURE

Friends of H. A. Melat, Fort Worth, Tex., must have been startled by his apparently changed looks when they saw

H. A. MELAT

what purported to be his picture in The Oil and Gas Journal of last week, along with a sketch of his life. But the picture was not that of Mr. Melat, for years superintendent of production for the Gulf Production Co. The accompanying picture shows how he really looks.

Oklahoma Fields

(Continued from Page 54)

others' No. 1 Swink, C NE SE Section 29-6s-20e, Pushmataha County, drilling at 410 feet; Simpson-Fell Oil Co.'s No. 9 Walker, NE SW SW NW Section 10-4s-2w, Carter County, a rig; Owl Oil Co.'s No. 6 McLandon, NE cor. NW Section 9-3s-5w, Stephens County, a machine; Mudge Oil Co. and others' No. 11 Cobb, C E half NE Section 1-2s-5w, Stephens County, drilling at 650 feet; and No. 12 Cobb, C NE NE Section 1-2s-5w, a location; W. E. Thurlow's No. 1 Gilmore, NW NW NE SE Section 10-2s-5w, drilled to 374 feet and shut down; Skelly Oil Co.'s No. 22 Harley, NE NW SW NE Section 24-2s-4w, a location; Skelly Oil Co.'s No. 1 B. Drew, C NW SW SE Section 8-2s-2w, Carter County, moving in material; F. E. Robertson's No. 1 Parish, SW SW SE SE Section 22-2s-2w, a machine; Walter Neustadt's No. 3 fee, SE NE SW SW Section 3-1s-3w, a rig; Carter Oil Co.'s No. 1 J. L. Epley, C SE NW SW Section 4-1s-3w, a location; Carter Oil Co.'s No. 2 Perkins, C NE SE SE Section 4-1s-3w, moving in rotary; Amos Drilling Co.'s No. 1 Hooks-Mitchell, NW SE NW Section 19-1s-2w, Carter County, rigging up rotary.

DEATH OF W. J. THAWLEY

W. J. Thawley, of Laurel, Md., father of W. R. Thawley of the Gypsy Oil Co., Tulsa, and of Leonard H. Thawley of the Phillips Petroleum Co., Bartlesville, Okla., died at his home early Thursday morning, November 30, at the age of 79 years. Mr. Thawley had been in poor health for several months. Mrs. Thawley survives, together with one daughter, Miss Mabel R. Thawley, and the two sons above named.

FREDERICK C. BLACKWELL DIES

PETROLIA, Ontario, Dec. 2.—Frederick C. Blackwell, widely known as a Canadian driller, died here on November 21, age 69. Born in England, Mr. Blackwell came to Petrolia as a boy, later learning the drilling trade. He spent practically his entire life in Petrolia, except for two years in the Persian fields.

Petroleum Accountants Society Annual Meeting

At a meeting of the board of directors of the Petroleum Accountants Society of Oklahoma, held November 28, M. H. Massey, who served as president during thepast year, was re-elected for the coming year. Mr. Massey is in charge of auditing work for the Marathon Oil Co. and the Mid-Kansas Oil & Gas Co. Other officers elected were: First vice president, E. H. Loosely, Continental Oil Co.; second vice president, Roy Parr, Phillips Petroleum Co.; secretary-treasurer, L. S. Collins, Carter Oil Co.

New members elected to the board of directors were: F. J. Kelleher, Stanolind Oil & Gas Co.; Roy Parr, Phillips Petroleum Co., and L. S. Collins, Carter Oil Co.

The entire board of directors is composed of the following: E. F. Brite, Skelly Oil Co.; D. B. Catterlin, Gypsy Oil Co.; L. S. Collins, Carter Oil Co.; L. P. Harrington, Pure Oil Co.; Ed Loosely, Continental Oil Co.; M. H. Massey, Marathon Oil Co.; L. D. Messner, Barnsdall Oil Co., and Roy Parr, Phillips Petroleum Co.

The membership of the society is composed of chief accounting officers for a majority of oil companies operating in the Mid-Continent Field. Meetings are held regularly each month, and subjects pertinent to accounting for all phases of the oil industry, together with the various forms of tax problems, are discussed.

Kansas Fields

(Continued from Page 52)

25-14, location; Markus & Gore's No. 4 Smith, NE NE SW NE Section 6-24-12 (corrected location), rigging up; Matthews & Rex's No. 1 C. Lewis, SW SE SE Section 8-24-12, drilling at 600 feet; O.K.O. Oil Co.'s No. 3 Winterschied, SW NE NW SE Section 6-24-14, drilling at 750 feet; Pure Oil Co.'s No. 15 Winterschied, SE NE NE SW Section 6-24-14, rigging up; Theta Oil Co.'s No. 4 Estes, SE SE SW NW Section 7-24-14, drilling at 650 feet; Ward McGinnis' No. 2 O'Neal, NE SE SE Section 29-23-11, a location; same operator's No. 3 Beal, 780 feet south and 330 feet west of NE cor. Section 32-23-11, drilling at 760 feet.

Rice County

The Texas Co.'s No. 3 West, NE NW NW Section 21-20-10w, Rice County, was completed. It made 388 bbls. in 24 hours from Kansas City lime at 3,100-32 feet, acidized.

Atlantic Oil Producing Co.'s No. 1 Brandenstein, C SE SE Section 10-19-10w, a wildcat, flowed 420 bbls. of oil in 6½ hours from pay at 3,014-26 feet.

Ramsey and others' No. 1 Lansing, SE NE Section 31-19-9w, Chase townsite, was treated with acid in Siliceous lime at 3,222-71 feet and swabbed 39 bbls. per hour.

Ramsey and others' No. 3 Smith, Block 12, Chase townsite, SW Section 32-19-9w, pumped 608 bbls. in 24 hours from Siliceous lime at 3,239-57 feet and was completed.

Hartman Oil Co. and others have a rig up for No. 1 Orth, SW NW Section 15-16-10w, Ellsworth County.

Foster & Braden have a rig up for No. 1 Sellens, NE cor. Section 27-15-13w, Russell County.

JOHN J. SHARPE DIES

OIL CITY, Pa., Dec. 2.—John J. Sharpe, 78, pioneer oil man, died at his home on East Walnut Street, Titusville, after a week's illness with pneumonia.

Mr. Sharpe moved to Petroleum Center with his parents in 1868 and started in the oil business, becoming an active operator in that and the Bradford Field. He moved to Titusville in 1890 and at the time of his death was operating several leases on the east side of the Queen City.

He was one of the best known oil men in this section and annually renewed acquaintances at Old Home Day on "Gobbler's Knob" at Petroleum Center.

NEW AND IMPROVED EQUIPMENT

Metal in Thompson Fusible Plug Receives Severe Test

The Thompson ¾"x4" bronze fusible plug, made by the Boiler Equipment Supply Co., Inc., Oklahoma City, Okla., right analysis. The fusible metal has been approved by the A. S.M.E. boiler code committee and by the U. S. Department of Commerce steamboat inspection service for all pressures up to and including 400 pounds per square inch gauge pressure. This plug melts by firebox heat, also by water and steam actuation at between 440 and 450 pounds gauge pressure per square inch.

A careful record is kept and placed with the proper authorities to guarantee the filling with the proper fusible metal of is checked from the mill to the consumer, to insure uniform construction and proper actuation.

The Thompson plug on actual measurement has melted from head of plug as much as 2⅛ inches at firebox temperature of 1,800° F. and 1¼ inches at 1,200° F., leaving the tapered portion of fusible metal intact and enough to withstand the stated pressure.

The water temperature is higher by about 3° F. than the steam. The heat transfer made is in the form of bubbles which contain a gas. The plug will actuate under certain conditions while completely covered by water, that is, when the pressure rises a little under 440 pounds gauge pressure. It will also actuate when the water has receded down on the body of the plug to about nine-sixteenths inch over the crown-sheet.

When actuating the plug is said to blow the fire out of the firebox, warning the fireman not to pump cold water over the crown-sheet. According to the manufacturer, it saves shutdown time and labor of changing and is dependable. It is made of high-class lacquered bronze and will not tarnish on the shelves. The shipping weight is about 1 pound.

NEW MOTOR IS ANNOUNCED

The Louis Allis Co., Milwaukee, Wis., has announced a new line of capacitor start, single phase motors. Outstanding features are the built-in capacitor and the automatic cut-out switch.

The capacitor is rugged and durable, of the coil-wound type without any sharp turns, and is so located that a stream of cooling air constantly passes between the motor and capacitor, prolonging its life and efficiency.

The automatic centrifugal cut-out switch is a time-tested device which cuts out the capacitor at exactly the right speed and is in no way affected by voltage variation or starting loads variations. The motor is available now in sizes ranging from one-third to 3 horsepower, either horizontal or vertical types.

Notes About Trade Literature

A 12-page folder issued by the Brown Instrument Co., Philadelphia, Pa., illustrates and describes the Brown recording CO_2 meter, emphasizing the saving in fuel costs made possible.

—

The Cletrac "80" Diesel receives special attention in the current number of Cletrac Facts, published by the Cleveland Tractor Co., Cleveland, Ohio.

—

"Refractory Cements, Their Useful Characteristics and Some Recommendations as to Their Proper Use," is the title of a folder being distributed by Johns-Manville, 22 East Fortieth Street, New York.

—

A folder enumerating the uses and advantages of Harwaco Bond, employed in fireclay brickwork, is being sent to applicants by the Harbison-Walker Refractories Co., Pittsburgh, Pa.

The current number of Ladle Sparks Sivyer Steel, published by the Sivyer Steel Casting Co., Chicago, contains among other interesting articles one by David Zuege on "Specifications for Steel Castings."

—

"Diescherized Pipe and Tubing" is the title of a new bulletin published by the Babcock & Wilcox Tube Co., Beaver Falls, Pa., and containing the more important facts about the Diescher process and the scratch-free finish and uniform wall thickness of tubes made by that process.

—

An attractive eight-page bulletin, done in colors, has been issued by the Kibele Manufacturing Co., of San Antonio, Tex., giving complete information, illustrated, of all Kibele products. The Kibele piston for slush pumps, the Kibele boiler feed piston and Kibele swab are described in detail.

Linde Offers Addition to Oxweld Line of Apparatus

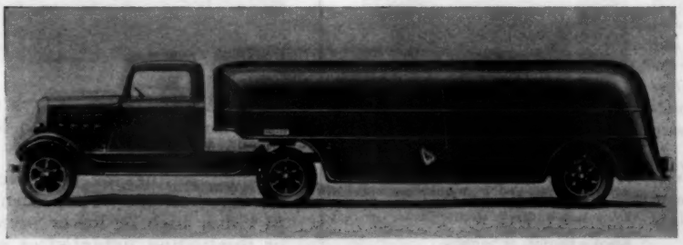
Another new cutting machine has been announced by the Linde Air Products Co., 30 East Forty-second Street, New York, as an addition to its Oxweld line of apparatus. It is the Oxweld pipe-cutting and beveling machine, consisting of a center rod with three spreading arms which press against the inner wall of the pipe, holding it in position, with an arm supporting a blowpipe that can be adjusted to the desired angle of the cut. The blowpipe and arm rotate without the use of a crank for quick centering of the device, and by means of a crank when doing actual cutting.

This machine will take almost any hand-cutting blowpipe, is readily portable, and its operation is simple. Once centered in the pipe, the operator merely turns the crank, causing the blowpipe to rotate evenly around the pipe, making a clean machine-like cut.

GET V-BELT DRIVE LICENSES

The Allis-Chalmers Manufacturing Co, Milwaukee, Wis., announces that licenses under United States letters patent relating to the company's power transmitting mechanism, commonly known as multiple V-belt drive, have been granted to the following belt and sheave manufacturers: American Pulley Co., Philadelphia, Pa.; Dayton Rubber Manufacturing Co., Dayton, Ohio; R. & J. Dick Co., Inc., Passaic, N. J.; Dodge Manufacturing Corp., Mishawaka, Ind.; L. H. Gilmer Co., Tacony, Philadelphia, Pa.; Golden's Foundry & Machine Co., Columbus, Ga.; B. F. Goodrich Rubber Co., and Goodyear Tire & Rubber Co., Akron, Ohio; W. A. Jones Foundry & Machine Co., Chicago; Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J.; Medart Co., St. Louis, Mo.; Ohio Valley Pulley Works, Maysville, Ky.; Pyott Foundry & Machine Co., Chicago; Rockwood Manufacturing Co., Indianapolis, Ind.; T. B. Wood's Sons Co., Chambersburg, Pa., and Worthington Pump & Machinery Corp., Harrison, N. J.

Streamline Gasoline Trailer Introduced by Fruehauf



Creation of a radically new and modern style of gasoline and oil trailer, with long sweeping curves and complete aer-streaming as outstanding features, is announced by the Fruehauf Trailer Co., Detroit, Mich. Even the top of this new unit presents a smooth unbroken profile, the inlet openings being hidden from view by setting them in slightly below the surface of the tank.

As the illustration indicates, the tank which may be of any make, will be mounted on a Fruehauf semitrailer of the drop-frame type, adding to its streamlined appearance and providing for increased "roadability."

The new trailer is to be made in several different capacities, which will be designed in detail to meet the particular haulage needs of the user.

Three-Cutter Wall Scraper Has Important Advantages

The MacClatchie Manufacturing Co., Compton, Calif., announces production of a new wall scaper which is said to have important features, including the following:

1. Three-point cutter assembly. According to the manufacturer, this three-point cutter assembly does away with gyrating, thereby cutting a true hole and eliminating vibration and whipping of drill pipe.

2. Strength of body and positive expansion and contraction of cutters. In designing the body of this wall scraper, special care is said to have been exercised in obtaining maximum strength.

3. Proper choice of steels and heat-treating processes. Because of careful selection of material and skill in manufacturing, an unusually high degree of strength and efficiency are reported to have been gained in this tool.

The company says that detailed reports of runs with this tool will be sent upon request.

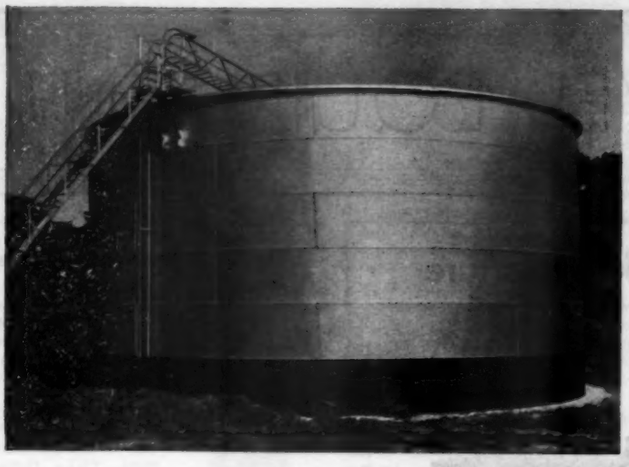
Welded Sheets of Toncan Iron Form Roof of Plant

Elimination of rivets and bands in the installation of corrugated metal roofing has been accomplished in the plant of the Republic Carbon Co., Niagara Falls, N. Y., by means of electrically welding the sheets. This unique installation method has been developed by S. M. McAnulty, plant engineer of the company, using Toncan iron throughout.

The roof covers a calcining plant consisting of large iron cylinders in which coal and petroleum coke are reduced to graphite by heating. These pots are cooled by a water spray resulting in hot fumes and gases being given off at the top. Since there is considerable steam in the building the formation of sulphuric acid from the sulphurous gases in the air requires a roof which resists the attack of acid. Toncan iron was selected.

Twelve-gauge hot rolled, annealed, pickled and corrugated Toncan iron sheets were electrically arc welded together with heavy flux-coated Toncan iron welding rod. About 35,000 pounds of Toncan iron were furnished for the job by Beals, McCarthy & Rogers, Inc., distributors, Buffalo, N. Y. The sheets were coated on the inside with Elasticote and on the top with an aluminum-asphalt paint. Overlapping expansion joints were placed at intervals of 28 feet. The space between the lapping and along the exposed edge was covered with glazing cement.

Such a welded all-metal roof presents no crevices under which the wind can gain sufficient leverage to rip off sheets and water cannot be driven by wind between the sheets.



3 Evaporation-stopping Storage Units

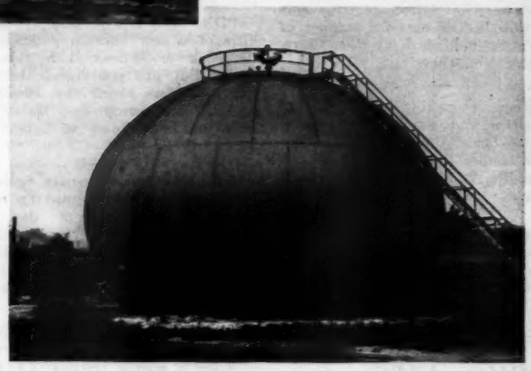
Horton Tanks with Wiggins Pontoon Roofs—for storing products not requiring pressure.

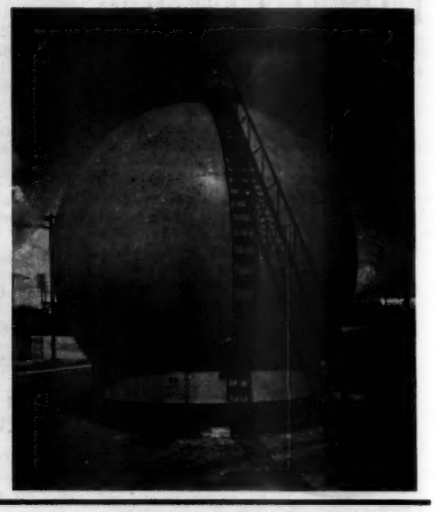
The Hortonspheroid—to withstand low pressure (the one in center view below is for 15 lbs.).

The Hortonsphere—for higher pressures (the one shown is designed for 50 lbs.).

CHICAGO BRIDGE & IRON WORKS

DALLAS	1241 Burt Bldg.
HOUSTON	2919 Main St.
TULSA	1606 Thompson Bldg.
BIRMINGHAM	1536 N. Fiftieth St.
CHICAGO	2128 Old Colony Bldg.
DETROIT	1514 Lafayette Bldg.
CLEVELAND	2204 Rockefeller Bldg.
NEW YORK	3147 Hudson Terminal Bldg.
PHILADELPHIA	1615-1700 Walnut St. Bldg.
BOSTON	1517 Consolidated Gas Bldg.
SAN FRANCISCO	1054 Rialto Bldg.
SEATTLE	4323 Smith Tower
LOS ANGELES	1423 Wm. Fox Bldg.
HAVANA, CUBA	Edificio Abreu 402





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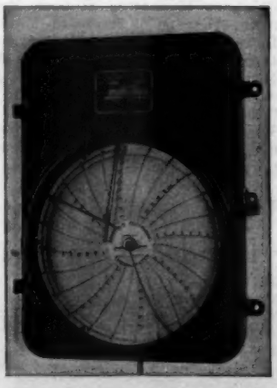
BRISTOL'S Recording Thermometers need no introduction. These instruments you know. They are old friends. They are the thermometers that again and again have won the enthusiastic endorsement of plant men.

Originally pioneered and developed over forty years ago by William H. Bristol, BRISTOL'S Thermometers initiated industry's first attempt to control quality and production. By providing a continuous chart record, they disclosed any and all variations of the temperature from the prescribed standards. They revealed these fluctuations in a form that could be analyzed, studied, filed and preserved for future reference and guidance.

BRISTOL'S today, as in the past, has a real message for you. Our engineers will welcome the opportunity to describe our latest designs and their applications to your needs.



BRISTOL'S Improved Recording Thermometer, Rectangular Model 240M. Handsome new moisture-proof, fume-proof, dust-proof case; one or more pen arms, upright or inverted; 12-inch or 8-inch chart, obtainable for almost any range from—60°F to 1000°F., and graduated for one revolution in 24 hours or 7 days; electric motor or spring wound clock; for wall or switchboard mounting, or portable.

THE BRISTOL COMPANY, WATERBURY, CONN.

TRADE MARK
BRISTOL'S
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For Better Regulation at Border Stations Use C-F

THE illustration shows two C-F Regulators, the larger for winter use when loads are heavy, the smaller for use in summer.

Double settings of C-F Regulators are not uncommon in border stations. They assure smooth and accurate control of either high or lower pressures, whether flow is constant or fluctuating, enlarged or reduced.

There are C-F Regulators for every need of gas regulation. They have been standard in the industry for over forty years. Write for full information.

The Chaplin-Fulton Manufacturing Company
28-40 Penn Avenue Pittsburgh, Pa.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

External Upset Tubing Helps in Remedying Thread Breakage

Breaking of tubing threading is a source of heavy expense in this region. Some of it can be traced to corrosion, but I believe, that will explain only a part of it. I wonder if you can give me any information as to the probable cause of this kind of tubing failure and what can be done to remedy it.—A. S. G.

Tubing failures have been a subject of investigation on the part of petroleum engineers, for these failures have added seriously to the costs of oil recovery in some fields. At the meeting of the American Petroleum Institute in Tulsa in May, 1933, Walter F. Rogers, of the Gulf Production Co., presented a paper in which he told of a detailed study of tubing failures. Concerning thread breakage he said:

"Excessive thread breakage is usually found in fields where heavy pumping loads exist. The Smackover (Arkansas) Pool is an example of this type. Approximately 200 wells are under observation in this field, but the majority of the failures occur in about 50 wells. During a nine-month period in 1931 these wells gave a total of 308 tubing failures. They were divided as follows:

Type of failure—	No. of failures	Average age (months)	Per cent of all failures
Thread breaks	163	38.0	52.5
Corrosion	59	51.0	19.3
Split joints	48	63.4	15.7
Collar leaks	38	40.3	12.5

"These data show that slightly more than half of all the failures in this field were due to thread breakage, and new tubing should primarily be designed to eliminate this trouble.

"The reasons for excessive thread breakage are not understood thoroughly. In this particular field, although it is necessary to handle large quantities of fluid, the pumping depth of the wells is relatively shallow, and the average loads are not excessive. It is thought that the excessive breakage is caused by localized (although not necessarily visible) corrosion attack coupled with high momentary shock loads due to operating the wells on long fast strokes. Although several methods have been tried for relieving the tubing of these impact loads so as to stop the breakage, they have so far not met with very great success.

"In fields where corrosion, rather than mechanical, failures predominate that portion of the tubing back of the threads is most susceptible to attack. It is difficult to overemphasize the importance of this type of failure. It can only be stated that inspection of large numbers of tubing-corrosion failures has shown that in the majority of the cases the attack proceeded from the interior of the tubing through the threads, and the body of the tubing was free from corrosion attack.

"A summary was made of 1,500 tubing failures which occurred in 12 months' time. The statistics indicated that over 50 per cent of all these failures was directly attributed to either thread breakage or corrosion through the threads. In addition, it is estimated that between 50 and 75 per cent of all tubing failures is due to this cause; and, consequently, tubing should be designed to resist the attack.

"In addition to these field inspections, data have been obtained from short-length tubing tests which show that this particular type of failure is not accidental. The data have been too consistent for this particular locality of attack to be accidental. It is quite probable that the attack is caused at places broken in the mill scale when the tubing is threaded. To check this point specimens of scale-free tubing have been set for test. It has been found from other experiences that mill scale is a protective agent, and should be allowed to remain on sheets and pipe. It remains, however, definitely to check this point for tubing.

"Fortunately, there is at hand a partial remedy for this extensive trouble. The remedy lies in the use of external-upset tubing. External-upset tubing is designed primarily to make the strength of tubing at the threads equal to the strength of the body of the tubing. A number of strings of this type are in use, and data have already been obtained to show that it is much less susceptible to thread breakage than is regular-end tubing."

Amount Due Royalty Owner Can Be Figured From Price Tables

Please explain how we can figure out what our monthly income on oil royalties will be by referring to The Oil and Gas Journal.—N. J. W.

You should receive a statement with each royalty check that will show the net amount of oil produced upon the lease during any period of constant price and indicate your portion of this oil under your royalty holdings. There are details in such a statement that you cannot very well check, but if you will refer to The Oil and Gas Journal each week you will find "Refinery and Crude Prices." These price tables are recognized in the oil industry as authentic and by using them you can figure the amount of money due you for any period.

Length of Time for Belt's Stretch Is Determined by Conditions

I read an article in your magazine telling how the slack in a new belt is taken up as it stretches. I would like to know just how much a leather belt stretches when it is first put to use. Is there any rule?—R. N. E.

A good leather belt has a great deal of elasticity and for this reason it is capable of absorbing shock loads over a long period of time without breaking down. A manufacturer of high-grade leather belts takes care not to destroy this elastic quality by wholly eliminating this initial stretch. Concerning the degree of stretch that may be expected from a belt Haven-Swett's treatise on leather belting has the following to say:

"The initial stretch is that stretch which comes from the leather fibers pulling closer together as the belt is set to the drive. Some belts stretch more than others under the same conditions, and some conditions cause more stretch than others. Damp conditions particularly cause a belt to let out more quickly.

"The average stretch after installation over the first year in the life of a belt properly installed on a correctly designed drive will vary from 3 to 7 per cent. Under unfavorable conditions this may be more. More belts are damaged from being allowed to become too loose than in any other way. A loose belt will slip with resultant decreased efficiency and power loss. Slipping will also cause it to heat, due to friction, which will burn and harden the surface of the leather. The belt will then permanently lose its gripping surface and will break if the action is carried too far. Again, a loose belt may slip off the pulley necessitating a shutdown until it is replaced. There is also the added danger of the catching and tearing of the belt itself."

Not Clear as to What Constitutes Waste in Oil and Gas Fields

Is there not room for wide differences of opinion as to what constitutes waste of oil and gas? Has anybody ever offered a comprehensive, hard-and-fast definition of waste, especially as it refers to gas, that has met anything like general acceptance by oil and gas men and writers? I am not at all clear myself as to just when and where waste begins.—E. R. M.

Unquestionably the word "waste" does not mean the same thing to all oil and gas men. In addition to the general tendency to use terms of this kind loosely, there is the fact that personal interests have a way of coloring personal opinions. The owner of a well in a flush field which is blowing thousands of feet of gas into the air daily in order that oil may be produced from the well is not likely to have the same idea concerning waste as the man who has no personal interest in such a well and who is a zealous advocate of conserving natural resources.

This department has no knowledge of any "comprehensive, hard-and-fast" definition of waste that has been accorded general acceptance, but there does not seem to be any "room for wide differences of opinion" concerning the waste of oil or gas in its major aspects anyway. A law recently enacted in Oklahoma contains a definition of waste of oil and gas, and it is as comprehensive as any that comes to mind and it has whatever merit there is in being official. It follows:

"Waste includes economic waste; underground waste, including water encroachment in the oil and/or gas-bearing strata; surface waste incident to the production of oil in excess of transportation or marketing facilities or reasonable market demand. Such conditions as constitute waste are prohibited and the Corporation Commission is charged with the duty to make rules, regulations and orders for the prevention of such waste and for the protection of all fresh-water strata and oil and/or gas-bearing strata encountered in any well drilled for oil or gas.

"The waste as applied to gas contained in or produced from a common source of supply of oil shall, in addition to its ordinary meaning, include the unreasonable production and/or the inefficient or wasteful utilization of gas in the operation of oil wells; the escape, directly or indirectly, of gas from oil wells into the open air in excess of the amount necessary in efficient drilling, completion or operation of wells; the escape, blowing or releasing, directly or indirectly, into the open air of gas produced from wells producing gas only, or of gas and gasoline only, drilled into any common source of supply, save only such as is necessary in the efficient drilling and completion of wells, and the unnecessary depletion or in efficient utilization of the gas energy contained in any common source of supply."

Why Was It Called That?

DREDGE

Oil operations in marine and alluvial areas have given the dredge a new field of service. The word dredge is related to the Middle English dragge and the Danish dreg. Dredging vessels in New York Harbor, sucking up sand and sediment from the bottom and depositing them on shore to maintain sufficient depth for shipping, bring strange objects to the surface, including jewels and other treasures which sank when New York was a Dutch village. Even the bodies of drowned persons have been retrieved. Once a sculpured head of Julius Caesar came up and it was the cause of a dispute between the American and Italian governments. A wealthy woman in New Jersey eventually proved her claim to the piece as part of a shipment of foreign antiques consigned to her.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Methods For Determination of Heating Values of Gases

Are the same conditions followed and the same corrections made with both high and low B.t.u. gases when run in a gas calorimeter?—H. R. E.

This subject has been discussed before the American Gas Association, New York, May 22, 1933, by E. X. Schmidt, under the title, "The Accurate Determination of Heating Values of Gaseous Fuels." The material following is quoted from this paper:

Numerous methods are available for the determination of the heating values of gases, and the degrees of accuracy attainable are more varied than the number of methods. Thus the old-time gas man was able to judge heating values with a fair degree of accuracy by observing the appearance of the open flame burner. Bomb calorimeters, chemical analyses, etc., also offer means for determining the heating value of gaseous fuels. But, in general, commercial practice at the present time demands a better accuracy than is attainable with anything but direct calorimetric measurement. Furthermore numerous changes in gas manufacturing practice and the consumption of gaseous fuels has made it desirable to slightly modify calorimetric practice, taking into consideration the deficiencies in calorimetric procedure predescribed in 1914. Technologic Paper No. 36 of the Bureau of Standards describes several well-known flow calorimeters, together with a complete discussion of their uses, errors, etc., when applied to gases of the character whose heating value was considered of importance at the time this paper was published. Since then there have been radical changes in the composition of numerous commercial gases and furthermore, interest is now being shown in the heating value of numerous kinds of gases, whose heating value in 1914 were considered of no great importance.

The American Junker and Sargent flow calorimeters are most commonly used in this country. These calorimeters are designed to liberate approximately 70 B.t.u. per minute and most correction factors are based on this fact. Because of practical limitations on the maximum gas rate of 1/10 cubic feet wet water, and partly because of the slow burning qualities of certain low heating value gases (particularly blast furnace gas), it is not practical to liberate 70 B.t.u. per minute on gases with a heating value of less than 500 B.t.u. per standard cubic foot. For gases with a heating value less than 500 B.t.u. it is therefore desirable to use a gas rate of 8 cubic feet per hour. For gases with a heating value higher than 500 B.t.u. the gas rate should be set at:

$$\text{Gas rate (cu. ft. per hr.)} = \frac{4{,}200}{\text{heating value}}$$

Example: Blue gas, producer gas, blast furnace gas—80 cu. ft. per hour.

$$550 \text{ B.t.u. gas} = \frac{4{,}200}{550} = 7.6 \text{ cu. ft. per hour.}$$

$$1{,}200 \text{ B.t.u. gas} = \frac{4{,}200}{1{,}200} = 3.5 \text{ cu. ft. per hour.}$$

The correction factors for temperature gradient between inlet water and room tabulated in Technologic Paper No. 36 and other calorimetry publications, are based on the liberation of 70 B.t.u. per minute, and being expressed as a correction in B.t.u. to be added to or subtracted from the observed heating value are applicable only to a 500 B.t.u. gas or gases with a heating value below 500 B.t.u. The same criticism applies to the so-called correction for efficiency.

By operating a calorimeter on gases with a heating value lower than 500 B.t.u. at a gas rate of approximately 8 cubic feet per hour, the tabulated corrections and the efficiency correction (1 B.t.u.) therefore are to be applied directly to the observed heating value, independent of the heating value of the gas. With gases of a higher heating value (gases burned at a rate to liberate 70 B.t.u. per minute) the tabulated corrections and efficiency correction should both be multiplied by a factor "F" before they are added to the observed heating value, where

$$\text{"F"} = \frac{\text{Heating value of gas}}{600}$$

Example:

Observed heating value 1,100 B.t.u.
Room temperature 90° F.

Inlet water temperature 85° F.

Tabulated correction for inlet water = (—5) (0.9) B.t.u.

Then correction for heat loss = $(-5)\ (0.9)\ \frac{(1{,}100)}{(600)}$ or —8 B.t.u.

Correction for efficiency = $(1)\ \frac{(1{,}100)}{(600)}$ or plus 2 B.t.u.

Total correction = —6 B.t.u.

Corrections for humidity are usually listed in terms of B.t.u. to be added or subtracted to the observed heating value. Tabulations are usually given for "illuminating gas" (about 600 B.t.u.) and natural gas (about 1,000 B.t.u.). Humidity corrections depend to a considerable extent on the composition of gas as well as on the humidity. This is primarily due to different combustion characteristics of carbon and hydrogen. The determinations of humidity corrections for various kinds of gases lend themselves readily to graphical solution and by the combination of the graphical determination of relative humidity and correction for humidity, the more accurate determination becomes more simple than the methods outlined in Technologic Paper No. 36.

Grading of Fuller's Earth For Bleaching Efficiency

How is fuller's earth graded as to color removing qualities? I am told that there is a standard method used by the U. S. Geological Survey and would appreciate a description of this.—E. D. W.

There is no standard method for determining the bleaching action of fuller's earth and other filtering clays. The common practice followed in petroleum refineries is to test the earth with a known oil. A definite weight of earth or a selected volume, such as 100 to 1,000 cc., is placed in a glass percolator and packed to some agreed point. Then the known oil, say of four color, is poured onto the filter. The color of the filtrate is determined from time to time until it reaches a predetermined color, such as two. The volume of this oil per weight or volume of clay gives the efficiency number. Another test with a fuller's earth which has been selected as the plant standard should be run under the same conditions at the same time.

In another evaluation method the sample is ground to a selected fineness, the same as the standard, and four or five different portions, 10-20-30, etc., grams added to a definite weight of oil. This is agitated for one hour at 150° F., then filtered through filter paper. The color of the filtrates is compared with that obtained by similar tests with the standard clay.

The method used by the U. S. Geological Survey (see The Bleaching Clays, by P. G. Nutting, Cir. No. 3, Geological Survey), makes use of numbers representing complete filtration, that is water-white. The numerals, representing bleach rating, are the ratios of volumes of oil filtered to the volume of clay. "Thus if 1 inch of clay filters 1.5 inches of oil water-white before going to green or yellow its rating is 1.5. The test oil was a high gravity black natural petroleum, free from sulphur. Obviously this rating has little practical significance and was chosen partly for that purpose.

"Tests of scores of samples . . . indicate that the maximum bleaching power to be expected of any natural bleaching clay is about 1.6 to 1.8. This rating is approached by a number of selected western clays. This statement applies to clays treated only by milling and dehydrating to 350° F. just before using. The bleaching power of clay thus dried is 2 to 3 times that of the same clay merely room-dried at say 30 per cent relative humidity."

C. F. R. Report on Performance of Alcohol Blends

What was the result of the special investigation made by road tests of alcohol-gasoline mixtures? I refer to the tests made by the Automobile Research Committee?—E. M. A.

The Co-operative Fuel Research Committee reported several months ago on the behavior of a motor fuel consisting of a gasoline with 10 per cent ethyl alcohol, as compared with the performance of the same gasoline. The conclusions of the committee were, in brief:

Acceleration is the outstanding performance characteristic demanded by the public, and carburetors are set for this. For equal acceleration the fuel consumption with the blend is approximately 4 per cent higher than with the straight gasolines. This statement is based on measured performance in cars and corresponds to the heat content of the respective fuels.

Engine starting is more difficult with the alcohol blend. The tendency to vapor lock is greater with the blend, and still greater if adjusted to give equal starting ability.

The alcohol blend has a higher anti-knock value of approximately 5 octane units, but at a much higher cost per unit than by other available means.

The tendency of alcohol to absorb moisture from the air and the water which normally accumulates in gasoline during storage and service is frequently sufficient to cause separation of the alcohol from gasoline.

If alcohols were desirable as fuels for blending, the petroleum industry could produce them at less cost from petroleum than they can be produced from corn or other agricultural products. Technically speaking, ethyl alcohol is less desirable than the higher alcohols derived from petroleum, for blending with gasoline.

The committee suggests that there are other problems arising from the use of alcohol blends, including corrosion of engine parts and fuel pipe lines, also the effect of the solvent action of such blends.

Factors Involved in Co-efficient of Friction of Lubricating Oils

Will you explain what are the essential properties related to the co-efficient of friction of automobile lubricating oils?—L. G.

The principle relating to the use of lubricating oils is that a cushion or skin shall be formed to prevent metal to metal contact and consequently wearing away of the bearing surfaces. This property of an oil may be described as the coefficient of friction. The tenacity with which the protecting film of oil persists depends on its viscosity, speed at which the surface is moving and pressure or load.

The coefficient of friction may be expressed by $\frac{Zn}{P}$ in which the absolute viscosity of the oil is Z, the speed by n, and the load in pounds per square inch by P. See Ind. & Eng. Chem. 14, 682, 1922.

It is commonly recognized that greater loads may be carried by the higher viscosity oils, but the friction will be more at any definite speed and fixed load.

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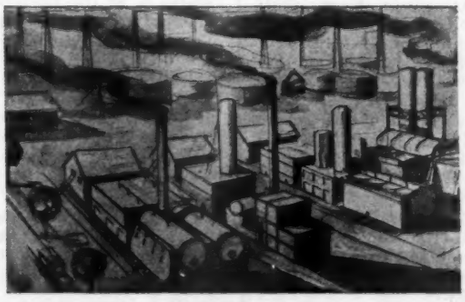

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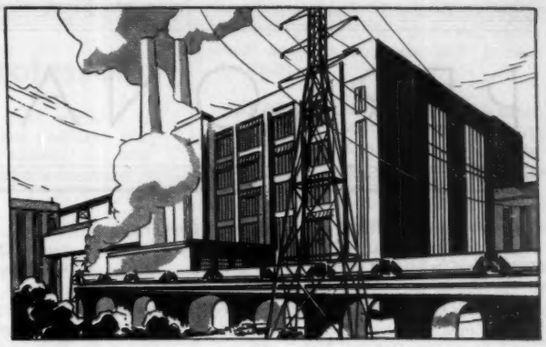

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PERSONAL PARAGRAPHS

D. B. CRAWFORD, treasurer, the Parkersburg Rig & Reel Company, Parkersburg, W. Va., was in Tulsa last week.

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A. J. HARDENDORF, of the Fredell Construction Company, has been transferred to Houston, Tex., from the Denver, Colo., office.

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D. A. WILLIAMSON, for 15 years an oil operator in the Tampico, Mexico, fields, but more recently in the Mid-Continent territory, is in San Antonio, Tex., and making it his headquarters.

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R. O. (BOB) GARRETT, attorney for the Arkansas Fuel Oil Company, Longview, Tex., was nominated for president of the East Texas Petroleum Council, at Austin on November 28. The election will be held by a mail poll of the directorate.

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EDWARD J. RILEY, president, Smith Separator Company, Tulsa, is in Houston, Tex., on company business.

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W. D. SHAFFER, president of the Shaffer Tool Works, Los Angeles, Calif., is visiting the Houston, Tex., offices of the company.

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RICHARD W. SMITH, who has been assistant state geologist of Georgia for seven years, has been appointed acting state geologist by Governor Talmadge.

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J. J. BOURQUIN, district mining supervisor of the U. S. Geological Survey, has returned to Denver, Colo., from an inspection trip in northwestern Colorado and Wyoming.

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WILLIAM J. MILLARD has resigned from the firm of Huntley & Huntley, of Pittsburgh, Pa., and is doing independent consulting work in South America and the United States.

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F. O. HALLIFAX, managing director of the Svensk Engelski Mineralaje Aktiebolaget, has resigned. Mr. Hallifax was for several years the general manager of the Anglo-Egyptian Oilfields, Ltd.

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H. B. SOYSTER, chief of the oil and gas division of the U. S. Geological Survey, was in Denver, Colo., on official business the past week and returned to Washington, D. C., by way of Tulsa.

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FRANK L. COCHRAN, head of the sales department of the Standard Oil Company (Indiana) for the Rocky Mountain division, has returned to Denver, Colo., from an inspection trip in Wyoming.

• • •

CHARLES E. McCARTHNEY, president of the Petrolene, Ltd., Long Beach, Calif., will address the California Natural Gasoline Association at its monthly dinner at the Richfield Cafe, December 7, on "Liquid Gas and Its Adaptability as a Motor Fuel."

• • •

W. W. FLEMING has been named president of the Mid-Kansas Oil & Gas Company, succeeding the late R. J. BERRY. JAMES L. COOK has been named director and treasurer. CHARLES BUNJE has been chosen president of the Illinois Pipe Line Company, and J. C. DONNELL, II, vice president and director.

O. E. REYNAULD, land department, Texas Company, Tyler, Tex., spent several days in Lake Charles, La.

• • •

SIR ROBERT WALEY COHEN, K.B.E., joint managing director, Shell Transport & Trading Company, is a member of the committee of the Levant Fair, which is to be held at Tel-Aviv, Palestine, from April 26 to May 26, next.

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MAJ. C. W. McKITRICK, at one time prominent in the oil business at Petrolia, Ontario, has been appointed to the relief department of the Ontario government at Toronto. As a young man he was associated with his father, who came to Petrolia in the boom days of 1867 and engaged extensively in oil production. Major McKitrick left Petrolia for Alberta in 1909.

EDWARD MICHENER, of Calgary, president of Athadome Oils, Ltd., is in Toronto on business connected with his company.

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R. R. CRAWFORD, independent oil operator, and wife, of Tulsa, stopped off in Houston, Tex., returning from a vacation spent at Mexico City.

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R. B. PAXTON, Houston, Tex., geologist Gulf Coast district, Continental Oil Company, has returned from the company's Ponca City, Okla., offices. He made the trip by airplane.

• • •

SAM H. HOUSTON, JR., of the Lake Charles, La., district office of the Humble Oil & Refining Company, was married December 5 to MISS EDITH LOUISE PURDY at Lake Providence, La. They now are on a honeymoon trip to Monterrey, Mexico.

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H. W. CAMP, general superintendent of refineries for the Empire Oil & Refining Company, spent a day at the Gainesville, Tex., plant in the past week.

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C. E. DOBBIN, of the U. S. Geological Survey, addressed the Rocky Mountain Association of Petroleum Geologists at Denver, Colo., on "The Age of the Earth."

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CAPT. H. B. TOSTEVIN has been appointed chief engineer of the marine department of the Vacuum Oil Company, in succession to A. H. MATHER, who has retired.

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D. L. KATZ, formerly associated with PROF. GEORGE GRANGER BROWN, at the University of Michigan, is now with Phillips Petroleum Company, Bartlesville, Okla.

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LOUIS O. QUAM, of the University of Colorado, was the guest speaker at a luncheon by the Rocky Mountain Association of Petroleum Geologists at Denver, Colo., on December 4.

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R. L. (BOB) WHITE, scout for the Sun Oil Company, has just been transferred from Palestine in East Texas, to Laredo on the border from which place he will scout Southwest Texas.

• • •

HENRY B. RUST, formerly president of the Koppers Company, Pittsburgh, Pa., has been made chairman of the board, and J. P. WILLIAMS, JR., has been elected vice president.

• • •

MARTIN W. BADEN, vice president and petroleum engineer for the Trees Oil Company, has resigned and will open an office in Winfield, Kans., as a consulting geologist and petroleum engineer.

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H. L. HUNT, of Tyler, Tex.; GEORGE STRAKE, HARRY HANSZEN and JIM ELKINS, of Houston, Tex.; JAMES COLLINS and JOE PIERSON, of Corsicana, Tex.; BEEMAN STRONG, of Beaumont, Tex.; CLIFFORD MOORES, of San Antonio, Tex.; BERT WEEKLY, of Fort Worth, Tex.; C. R. COLE, of Laredo, Tex.; HARRY MOSS, of Dallas, Tex.; GEORGE McINTYRE, of Fort Worth; M. G. CHANEY, of Coleman, Tex.; JOHN SHEERIN, of Amarillo, Tex.; and FRED HOGAN, of Midland, Tex., have been nominated for directors of the Texas Petroleum Council.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

December 6, 1908

Jim Sloan, of the Dallas Co., and C. A. Lytle and C. J. Dowell, officials of the Petroleum Iron Works, Sharon, Pa., have a thrilling experience in the swollen waters of Polecat Creek, near Kiefer, Okla. They attempted to drive across the creek and horses and surrey sank out of sight in the deep waters and the men had to swim ashore.

The State of Oklahoma has filed suit to oust the Indian Territory Illuminating Oil Co. from possession of 680,000 acres of Osage Indian land, which the tribal council had leased to the company for oil and gas development. Governor Haskell is back of the suit.

The Prairie Oil & Gas Co. files with Indian Agent Kelsey at Muskogee, Okla., survey maps for a 12-inch pipe line from Jenks, Okla., to New Orleans, La., a distance of 549 miles. The line must have the approval of the Secretary of the Interior before actual construction can begin.

20 Years Ago

December 11, 1913

The deep test near Bradford, Pa., is down 5,650 feet. It is being drilled with money raised by subscriptions in Bradford, to which supply companies and some large oil companies have contributed. Now the drilling committee has run out of funds and the hat is being passed again to raise money to buy a 6,000-foot wire cable.

O. P. Boggs has resigned as manager of the Maritime Oilfields, Ltd., at Moncton, New Brunswick, to accept the management of one of the T. N. Barnsdall companies in the United States. Mr. Boggs is a veteran of the Canadian and the Pennsylvania oil fields.

What is claimed to be a record in drilling a cable tool hole 1,500 feet has been made in Osage County. Harry Breene, contractor, and Drillers Huffman and Long, drilled a Barnsdall Oil Co. well to the depth of 1,529 feet in nine days.

A home-made drilling machine is being used to drill a well in the Rantoul district in Kansas. A husband and wife are the crew, hubby drilling and his faithful helpmeet acting as tool dresser when not engaged in household duties. They say in Independence, Kans., that Mark Mitchell discovered the funny drilling machine over in Missouri.

J. C. McMahon, manager of the Tampico Company in Tampico, Mexico, has resigned to enter the pipe line department of the Texas Co. He was succeeded in Tampico by Ike Chidsey, sent from the Houston headquarter of the Texas Co.

The Midway-Sunset Field in California is the largest in the United States in point of current production. It is pouring out about 120,000 bbls. daily.

10 Years Ago

December 6, 1923

The American Petroleum Institute assembles in St. Louis, Mo., "at the most critical period in the history of the petroleum industry."

The Powell Field in one month has dropped from 354,000 bbls. a day to 125,000 bbls. a day. The field is not seven months old and passed its peak at the end of six months. Many operators believe the oil business can now see its way out of the woods, but W. S. Farish, president of the Humble Oil & Refining Co., says it would be a grave error to advance the price of oil, as some companies may do to improve their inventories.

J. Elmer Thomas, of Chicago, a consulting geologist, is a Tulsa visitor.

The employment of paleontologists by Gulf Coastal oil companies is increasing.

T. L. BARKS has returned to London after a visit to the United States.

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A. P. MOODY, Jarecki Manufacturing Company, St. Louis, Mo., is making a trip to Texas Gulf Coast fields and company branch stores.

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DR. F. H. GARNER, F.I.C., chief chemist of the Anglo Persian Oil Company, has been nominated for the committee of the Institute of Chemistry.

• • •

DR. CHARLES E. DECKER, consulting geologist, Norman, Okla., addressed the Tulsa Geological Society, December 4, on "Viola Limestone, Primarily of Arbuckle and Wichita Mountain Regions."

• • •

W. J. ZICK, of the Standard Oil Company of New York, has been appointed adviser to the National Recovery Administration to serve in the hearing of the Insecticide Division of the Insecticide and Disinfectant Industry, which will be held at Washington, D. C.

• • •

W. W. GILL has been appointed manager of the national accounts sales division of the truck and bus tire department of the B. F. Goodrich Company, it is announced by C. B. O'CONNOR, general sales manager of the Goodrich tire division. Mr. Gill succeeds C. H. RUSSELL, who died suddenly in Chicago after a heart attack.

• • •

G. S. VAN EMAN, formerly service station superintendent of the Chicago division of the Standard Oil Company (Indiana), was transferred to Grand Rapids, Mich., December 1, as assistant manager in charge of retail sales. J. W. ROSS, senior assistant manager, will devote his entire time to wholesale sales and to general administrative duties under L. J. THOMPSON, manager of Grand Rapids district sales.

• • •

HARRY L. MOURER is temporarily staying at Albany, N. Y.

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CECIL HAGEN, head of the land and geological department of the Feltex Oil Company, Houston, Tex., has returned from a trip to New Mexico and southern Colorado.

• • •

O. B. WILSON, district manager of the Brown Instrument Company, Houston, Tex., MRS. WILSON and E. B. KOHL, service representative of the company, are on a motor trip to Tampico, Mexico.

• • •

D. B. MAPES, who was in the research department of the Mid-Continent Petroleum Corporation some years ago, has returned to that company to conduct chemical investigations at the West Tulsa refinery.

• • •

JOHN EASTMAN, whipstocking specialist of Los Angeles, Calif., who has been staying in Houston and Conroe, Tex., under contract in connection with attempts of operators in the Conroe Field to kill Harrison & Abercrombie's crater producer, spent several days in Tulsa.

• • •

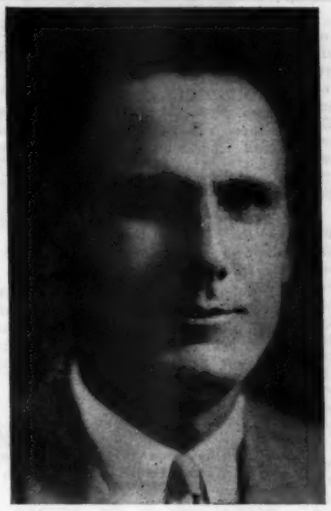
M. O. RIFE, division superintendent for the Gulf Production Company; J. ADAMS, zone agent for the same company, both of Fort Worth, Tex., and PAUL HIBBARD, chief engineer for the Gulf company, are hunting in Gillespie County, guests of JON LONG, of the Petroleum Equipment Company, Fort Worth, Tex.

• • •

H. H. KEATING, head of the sales division of the Standard Oil Company (Indiana) at Saginaw, Mich., for the past 10 years, was transferred December 1 to LaCrosse, Wis., in a similar capacity being succeeded at Saginaw by CARL MONSON, sales manager at LaCrosse since 1929. Mr. Keating was honored with a farewell dinner at the Bancroft Hotel, Saginaw, attended by more than 200 persons from throughout the district.

Engineer Now College Professor

Melbert E. Schwarz, who recently resigned as chief engineer of the Rio Bravo Oil Company, Houston, Tex., to become assistant professor of petroleum engineering in Texas A. and M. College, not only has had a varied experience in field work with his company but has been active in American Petroleum Institute work.



MELBERT E. SCHWARZ

He is national secretary of the Standardization Committee on Tubular Goods, a member of the National Engineering Committee for Standards 5-A, covering casing, drill pipe and tubing; a member of the Southwestern Division Drilling Practice Committee, of which he was chairman during 1928, 1929 and 1930; and a member of the Board of Councilors for Selection of Directors.

Mr. Schwarz had been with the Rio Bravo company since July, 1924, when he went to work in its production department. The next year he was made production engineer and continued in that capacity until 1928, when he was made chief engineer. For more than a year he has been staying in Darrow, Ascension Parish, Louisiana, where the company is developing a new salt dome field.

Mr. Schwarz attended the University of Pittsburgh, Pittsburgh, Pa., where he obtained his M.S. degree in petroleum engineering in 1924. He also is a graduate of Washington University, St. Louis, Mo., where he obtained his B.S. degree in chemical engineering in 1920.

From 1921 to 1923 Mr. Schwarz taught physics in the Hazelton, Pa., high school, and in the year immediately preceding that he taught science in the Greenville, Ill., high school. He was born April 8, 1898, in Chicago.

A. L. BYRD, land department, of the Stanolind Oil & Gas Company, has been transferred from the Fort Worth, Tex., offices to the Gulf Coast district with Houston, Tex., as headquarters.

• • •

W. L. WOODWARD, general manager of the Winchester Oil & Gas Company, is moving from San Antonio, Tex., to Alva, Okla., to direct the Winchester company's activities in Oklahoma, Kansas and Texas.

• • •

A. N. ADELSON, secretary-treasurer of the Feltex Oil Company, Houston, Tex., is recovering rapidly after spending three months in bed with a broken leg. Mr. Adelson's home is in New York but during his confinement has been in a Houston hospital and at the Rice Hotel.

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J. A. SELBY, formerly land man and scout for the Vacuum Oil Company, then with the Magnolia Petroleum Company after the former merged with the Standard Oil Company of New York, has been made chief scout for the Magnolia company and has moved into the general offices of the company at Dallas, Tex.

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CLYDE M. BENNETT, vice president of Magnolia Petroleum Company, has been made chairman of the local arrangements committee for the Dallas, Tex., convention of the American Association of Petroleum Geologists to be held there next March, according to DR. F. H. LAHEE, past president of the association.

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FREDERICK S. FALES, president of the Standard Oil Company of New York, and a member of the executive committee of the Socony-Vacuum Corporation, is again organizing the petroleum industry in New York City for the city's major welfare campaign. Mr. Fales is chairman of the Petroleum Division of the Citizens Family Welfare Committee. He held the same position last year and his committee raised $270,000 from 169 oil corporations, executives and employes groups.

A. T. WHITE and E. G. V. WILLIAMS, of B. & R. Redwood, petroleum consultants, have left London for Iraq.

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ALEXANDER DUCKHAM, chairman of Trinidad Central Oilfields, Ltd., has left London to make an inspection of the company's properties in Trinidad.

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F. G. STARLING, director of the British government petroleum department, has been elected an honorary member of the Institution of Petroleum Technologists.

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DR. F. BERGIUS and DR. D. HOLDE, of Germany, have been elected honorary life members of the Institution of Petroleum Technologists in recognition of their work in research.

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J. R. McWILLIAMS, assistant umpire, Proration Department, Corporation Commission of Oklahoma, Tulsa office, has returned from his trip to Washington, D. C., and is again dividing his time between the Oklahoma City and Tulsa offices.

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H. J. LOCKHART, vice president and general manager, the Parkersburg Rig & Reel Company, Parkersburg, W. Va., left for Houston, Tex., last week to attend the meeting of American Petroleum Equipment Industry and Trade Association this week.

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HARRY MILLES has been named to succeed GORDON GRIFFIN in charge of the engineering department of the Texas Railroad Commission at Kilgore, Tex. Mr. Milles has been Mr. Griffin's assistant. Mr. Griffin has resigned to take a position as petroleum engineer with W. B. HAMILTON, Wichita Falls, Tex., operator.

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JOSEPH CHALMERS, engineer with the Bureau of Mines at Bartlesville, Okla., has resigned as of December 1 to join the engineering staff of the Shell Petroleum Corporation at Houston, Tex.

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CHARLES I. FRANCIS, special Federal assistant attorney general, is now in Tyler, Tex., preparatory to prosecuting several dozen cases in which violations of the recovery act have been charged.

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EARL S. HOUSTON, of the International Petroleum Company, Ltd., was a passenger on the Grace liner, Santa Maria which left New York City, December 2 for South American points. He was accompanied by MRS. HOUSTON.

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C. J. HILLMAN, of Oklahoma City, Okla., who once served Elliott Core Drilling Company as district manager in Texas, Louisiana and Arkansas, is now a member of the sales staff of Oil Center Tool Company in the Gulf Coast. Prior to his entering the equipment business in 1924 he served Shell company in California and the old Roxana Petroleum Corporation in the Mid-Continent for five years in the drilling and production division.

• • •

JON LONG, head of the Petroleum Equipment Company, Fort Worth, Tex., has been entertaining a group of oil men on his ranch near Fredericksburg. Those visiting and hunting on the ranch are: F. R. (DOC) OLDHAM, director of purchases for the Gulf Production Company; LYNNE COOPER, assistant to Mr. Oldham, and OSCAR BUSBY, material department for the same company, all from Houston; REX WATSON, division engineer for the Humble Oil & Refining Company, San Antonio; H. P. KEMP, production foreman, Luling; JIM GALLOWAY, engineer, at Luling, for the same company; JOHN CADENHEAD, warehouse man, for the Magnolia Petroleum Company; JOHN KAYE, with Frich-Reid Supply Corporation; EARL O'NEILL, store manager, for Republic Supply Company, all of Luling; and CHARLIE RICHARDS, with the Gray Tool Company, Houston.

NATURAL GAS DEVELOPMENTS

Data on Viscosity of Gas Aids in Solving Problems

Viscosity is an important factor in solving many engineering problems requiring the application of fundamental theories and laws of fluid movement that confront the petroleum and natural gas industries, states the U. S. Bureau of Mines in a recently issued technical paper, in which is described an apparatus and method for determining the viscosity of natural gas.

Until recently viscosity has been accorded relatively little weight in the solution of natural gas problems, and few pertaining data have been published. However, research has shown that it is frequently desirable and often necessary to have a numerical value for the viscosity of the gas under consideration.

The theoretical and mathematical treatment of the subject of gas viscosity and the laws governing its behavior are exceedingly complex, especially for natural gas. Accordingly, after giving reference to the available literature on the theory of liquid and gas viscosity, the authors, W. B. Berwald and T. W. Johnson, in clear and nontechnical language, have given a brief discussion on the viscosity of fluids; to show from the data of previous experimentors that the same general laws of fluid motion apply to an analysis of the flow of either liquids or gases; and to develop a method from these general laws of fluid motion for measuring the viscosity of natural gases sufficiently accurate and practical for use in natural gas engineering work.

Most methods for measuring the viscosity of gas are exceedingly complex, requiring highly refined laboratory apparatus and considerable skill in operation and interpretation of results. The method used by the Bureau of Mines engineers is simple in design and operation, requiring no complex apparatus or special skill.

The apparatus consisted primarily of a 10.3-inch diameter coil of one-sixteenth inch internal diameter copper tubing 135 feet long. A small positive meter, which was calibrated frequently against a standard cubic foot holder, was used to measure the volume of gas discharged at the outlet of the coil. The inlet pressure was measured with a 72-inch mercury manometer having a finely graduated scale; and the outlet pressure, which was held at approximately atmospheric pressure, was measured with a small water manometer. Moisture was prevented from entering the coil. The coil and meter were operated in a constant temperature bath. Operation of the apparatus consisted in maintaining uniform or steady rates of flow through the coil and observing corresponding pressures and rates of flow.

The method is based on the relationship between friction factor and the Reynolds "number" for flow of gas through circular tubing. The Reynolds "number" or "criterion" is the ratio. tube diameter multiplied by the density multiplied by the velocity divided by the viscosity of the fluid. A gas of known viscosity is used to determine the relationship for any tube of fixed dimensions. From this calibrated relationship and from the flow of natural gases of unknown viscosity through the same tube it is possible to calculate the viscosity of the natural gases. Dry air, the absolute viscosity of which has been well established, was used as a reference gas in calibrating the apparatus.

The accuracy of the method has been checked by determinations on gases of known viscosity. The indicated experimental error from a large number of determinations of the viscosity of air was approximately ±1.25 per cent. Check determinations on the viscosity of nearly pure oxygen, nitrogen, and methane gave average results within ±1.25 per cent of the most reliable and accepted values published for these gases. Additional check determinations on hydrogen and helium also were made in the apparatus.

Viscosity determinations at 60° F. and approximately atmospheric pressure were made on 25 natural gases of widely different chemical composition. The observed viscosity of these gases showed a maximum variation of approximately 25 per cent, or from 0.00000646 to 0.00000866 pound per second-foot, depending upon the chemical composition of the gas, which ranged from a "dry" gas of almost pure methane to a "wet casinghead" gas containing mostly hydrocarbon gases heavier than methane.

Results of experimental determinations on three representative natural gases at 40°, 60°, and 80° F. indicated that within this range of temperature the viscosity increases approximately 7 per cent, depending somewhat on the chemical composition of the gas.

Experimental determinations on the viscosity of natural gas also were made at pressures as high as 500 pounds per square inch absolute. The viscosity at these higher pressures was found to be approximately the same as that observed at pressures near atmospheric.

The data developed by Berwald and Johnson pertaining to the viscosity of pure gases and gas mixtures (including 25 per cent natural gases,) and the effect of temperature and pressure on gas viscosities, have been presented in convenient tables and charts. In addition, the application of viscosity data to analysis of some gas engineering problems is shown.

Copies of Bureau of Mines Technical Paper 555, "Viscosity of Natural Gas," by W. B. Berwald and T. W. Johnson, may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., price 5 cents in cash or post office money order. Stamps are not accepted.

Kansas City Gas Test Is Reported Making Oil

KANSAS CITY, Mo., Dec. 4. — Oil was struck at a depth of about 300 feet by drillers on a vacant lot at Forty-ninth Street and Wornall Road. The well yields approximately 20 bbls. a day of oil of high volatility.

Forty-ninth Street is not cut through at that point. Wornall Road is a long, concrete paved hill betwen Ward Parkway and Fifty-first Street, south and west of the Plaza. Where Forty-ninth Street would be if it were cut through, on the west side of Wornall Road, there is a cluster of duplexes behind which runs a driveway to a group of garages. The well is about 75 feet west of the garages.

The lot is owned by William Jenkins, 123 North Mersington Avenue. Formerly rock was quarried there. Drilling was under the supervision of William L. Meyers, contractor, and was for gas, rather than oil.

GAS LINE REPLACED

LETHBRIDGE, Alberta, Dec. 2.—The Canadian Western Natural Gas Co. recently completed replacement of 1¼ miles of 16-inch pipe of its original main transmission line north of Coaldale, Alberta.

Taggart Bros. Purchase Big Rapids, Mich., Gas

MOUNT PLEASANT, Mich., Dec. 2.—James M. and W. C. Taggart, owners of three gas wells, including the record No. 3 Robert E. Rish recently brought in with an open flow capacity of 27,500,000 feet a day in the Austin Township, Mecosta County Pool, this week completed negotiations for the purchase of the Big Rapids Gas Co., present distributors of artificial gas in the city of Big Rapids.

Purchase of the gas company culminates efforts of the Taggart Brothers to provide a nearby market for the natural gas of which the new central Michigan field now has an open flow capacity of more than 50,000,000 feet a day in four wells.

A nine-mile pipe line from the field to Big Rapids has just been completed and work has been started for the changeover by Armon Gruel, a Springfield, Ill., engineer.

New officers of the company are: President, James M. Taggart; treasurer, W. C. Taggart; secretary, Robert Fish.

The Taggarts already have started drilling No. 4 on the Fish lease, C SE NE Section 4-14n-9w, Austin Township, which if successful will extend the pool more than half a mile north of the No. 3 Fish. More than 1,500 acres already have been proved in the field.

A brisk leasing program throughout Mecosta County has resulted since the completion of the big gasser in Austin Township. Virtually all of Austin Township and much of the adjoining townships of Colfax and Mecosta are now under lease, it is reported by Harry Ladner, register of deeds. Many leases obtained several years ago in Chippewa, Fork and Sheridan Townships at the time of a previous unsuccessful drilling campaign in Sheridan also are being held.

New York-Pennsylvania Gas Field Developments

WELLSBORO, Pa., Dec. 2.—In Tioga County, Pennsylvania, Penn United Gas Co. is running casing in its G. Stevens well, in Farmington Township, drilled to 450 feet. In Potter County, Hungiville and others are rigging up on the Sturdevant farm, Hebron Township, on a new location, having abandoned a 2,065-foot deep crooked hole on the same farm. J. B. Reed and others are drilling at 4,300 feet on No. 2 Champlain location, Allegany Township. East Penn Development Co. is drilling at 4,235 feet on the property of the Emporium Lumber Co. in the East Fork district. Barker and others are rigging up on the U. B. Russell farm, Genesee Township. Potter Development Co. is drilling at 3,705 feet on the property of the Gray Chemical Co., in Clara Township. Sylvania Gas Corp. is drilling at 1,780 feet on the John Higley farm, Hebron Township. Penn-United is spudding on the U. B. Russell, same township. James Duff interests are spudding on the land of the Potter County commissioners, Allegany Township. Hanley and Bird are moving in on the S. Gooch farm, Hebron.

Mid East Corp. is drilling at 2,530 feet on the M. Reubenstein farm, Bristol Township, Ontario County, New York. Kerr-Kaufman is drilling at 2,924 feet on the Vincent-Smith property, Allen Township, Allegany County, and shut down at 2,700 feet on the Bank of Angelica plot, same township. Property Shares, Inc., is building a rig on the Charles Vanderbilt property, Galen Township, Wayne County. E. A. Adams and others are drilling at 625 feet on the H. Weckerlin farm, Junius Township, Seneca County. Broom-Tioga Corp. on No. 2 Henry Toewe location, Waterloo, is down to 570 feet and drilling. H. J. Hadley has completed a rig on the H. F. Slayton farm, Conquest Township, Cayuga County. Geneva Gas Properties, Inc., are drilling at 85 feet on the Mrs. Charles Peck farm, Phelps, and at 200 feet on the Carrie Parrish farm, at Waterloo. Tom Bois is moving in on the C. D. Ely farm, Galen Township, and Geneva Properties, Inc., has a new location on the John Saxton farm, Waterloo.

Gas Sales Show Gain Over Same Month Last Year

Sales of manufactured and natural gas aggregated 86,416,800,000 feet in September, an increase of nearly 7 per cent over the corresponding month of the preceding year, it is announced by Paul Ryan, chief statistician of the American Gas Association. In spite of augmented sales, however, revenues continued to lag, income for September amounting to $48,800,000 as compared with $49,874,100 in September a year ago, a decline of 2.2 per cent.

Most of the sales expansion of the industry was the result of pronounced increases in gas sales for industrial-commercial purposes, which averaged 14 per cent above the figures for September a year ago. Revenues from this class of business also gained, although not in proportion to increased volume, amounting to $14,532,900 in September compared with $13,706,200 for the same month of the preceding year, an increase of 6 per cent.

While sales of manufactured gas for domestic cooking, water heating, refrigeration, etc., continued to run about 6 per cent below a year ago, sales for house heating purposes registered a sharp gain, amounting to more than 22 per cent over the preceding year. Manufactured gas sales for industrial-commercial uses were also above those of a year ago by nearly 12 per cent.

Natural gas sales for domestic uses during September about equalled those of a year ago, while sales to ordinary industrial customers were up 12 per cent. Sales to large scale industrial users of natural gas showed a gain of nearly 25 per cent over the same month of the preceding year.

GAS APPLIANCE CODE

President Roosevelt, on November 27, approved the code of fair competition and trade practices for the gas appliance and apparatus industry. The code becomes effective on and after December 7.

All of the provisions of the code must be complied with in respect to all products which fall within the definition of the gas appliance and apparatus industry. Through their representatives, the code has been prepared, submitted and approved by members of the following organizations: Gas Appliances Institute, Gas Range Institute, Gas Space Heater Institute, Gas Water Heater Institute, Gas Boiler, Furnace and Conversion Burner Institute, Gas Apparatus and Accessories Institute and Association of Tank Water Heater Manufacturers.

GAS EMPLOYES ENTERTAINED

PETROLIA, Ontario, Dec. 2. — More than 30 employes of the Union Gas Co. in Sarnia, Courtright, Alvinston and the Dawn Field were guests of R. M. Smith, manager, and the Petrolia staff, E. C. Steele, superintendent, and Mr. Barker of Chatham, gave talks on bettering the service for gas consumers.

on the LIFE OF A DIESEL ENGINE

Q. What is the life of the Diesel engine?
—G. O. E.
A. The Bureau of Engineering, Department of the Navy, says that the life of a Diesel engine, except for the minor wearing parts, all of which are made renewable in modern quality built engines, is practically indefinite. The renewing of parts, such as worn liners, rings, valves, bearings, etc., is dependent very largely on the methods of operation and upkeep followed.
—*Washington Star*

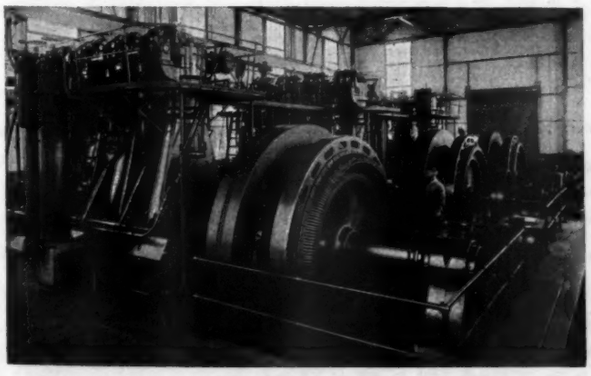
The Bureau of Engineering Dept. of United States Navy has this to say

Two facts are significant:

(1) That from this conservative source comes official confirmation of opinion long held by private industry—the life of a quality Diesel engine is "practically indefinite."

(2) Experience of the many users of McIntosh & Seymour Diesel engines in particular verifies the opinion of the Engineering Officers of the Navy. Thus high tribute is paid to the largest exclusive builders of American Diesels.

From our wide engineering experience gained through the design and application of Diesels to every prime mover requirement we can find the answer to your particular problem. But we cannot tell you *how long* a McIntosh & Seymour Diesel engine will last. Even eighteen years of diversified application has not determined that.



Here are the first three McIntosh & Seymour Diesels built. They went into service in 1915 for the Texas Power and Light Company, Paris, Texas, and after fifteen years' service were moved by their owners to another location where they are still in service.

McINTOSH & SEYMOUR CORP.
(DIVISION OF AMERICAN LOCOMOTIVE COMPANY)
Main Office and Works: AUBURN, N. Y.

NEW YORK, N. Y. 30 CHURCH STREET
CHICAGO, ILL. McCORMICK BUILDING
WASHINGTON, D. C. BARR BUILDING
TULSA, OKLAHOMA PHILTOWER BUILDING
HOUSTON, TEXAS ESPERSON BUILDING
OMAHA, NEBRASKA BARKER BUILDING
SAN FRANCISCO, CAL., BOURN BUILDING

To promote the highest interests of the Natural Gasoline Industry the

NATURAL GASOLINE SUPPLY MEN'S ASSOCIATION

was organized

▼

Active Members who are supporting this program are:

American Car & Foundry Co.
The Bristol Company
Burrell-Mase Engineering Co.
Chaplin-Fulton Mfg. Co.
Clark Brothers Company
Cooper-Bessemer Company
C. Lee Cook Mfg. Co.
S. R. Dresser Mfg. Co.
The Fisher Governor Company
The Foxboro Company
General Metallizing Company
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Hanlon-Waters, Inc.
Metric Metal Works
Moorlane Company
National Petroleum News
National Supply Company
National Tank Company
North American Car Corp.
The Oil & Gas Journal
The Petroleum Engineer
Petroleum Engineering, Inc.
Pittsburgh Equitable Meter Co.
Refiner and Natural Gasoline Manufacturer
The Refinery Supply Company
C. J. Tagliabue Mfg. Co.
Tulsa Boiler & Machinery Co.
B. W. Vinson Company, Inc.
Webster Engineering Co.
Westcott & Greis, Inc.
Worthington Machinery Corp.

Gulf Coast Fields

(Continued from Page 51)

Shell Petroleum Corp.'s No. 5 Heyd, in Section 13-9s-7w, Iowa, was completed during the week, making 1,013 bbls. of pipe line oil through a eighteen-sixty-fourths inch choke. British American Oil Co.'s No. 1 Louisiana Investment Co. in Section 6-8s-1e, East Baton Rouge Parish, which has been shut down for a few weeks, has resumed operations and is washing to bottom at a total depth of 5,536 feet in shale.

Lockport Field

In the Lockport Field, Calcasieu Parish, Magnolia Petroleum Co.'s No. 9 G. W. Farquahar was flowing by heads when completed during the week at a total depth of 6,677 feet. The well has been making around 125 bbls. a day through a one-fourth inch choke with a tubing pressure of 250 pounds. The well is on the west side of the field.

East Hackberry Dome

Another deep sand producer on the northwest flank of the East Hackberry Dome, Cameron Parish, is expected through the finding of oil sand at 5,956-64 feet in the Union Sulphur Co.'s No. 8 Humble. Five other wells have been completed in the area. North of the Humble test the same company's No. 1 Barbee estate at latest report was drilling at 6,628 feet with nothing showing.

Montgomery County

Turnbull and Irwin's No. 1 Aylor, E. J. Arnold Survey, in Montgomery County, northeast of the present production in the Conroe Field, found the Hockleyensis at 3,439 feet and is drilling deeper below 3,940 feet.

Stanolind Oil & Gas Co. purchased approximately 375 acres of leases in the vicinity of the Turnbull and Irwin's No. 1 J. J. West Lumber Co. in the J. Rankin Survey, in San Jacinto County, for the reported consideration of $75 an acre. The test was drilling at 3,250 feet on the last reports. The purchase of this acreage gives the Stanolind Oil & Gas Co. a spread of leases in the territory surrounding this wildcat test.

Jefferson County

Sun Oil Co. and Shell Petroleum Corp.'s No. 1 Paggi, near Nome, a wildcat on the Nome geophysical prospect, Jefferson County, has been plugged back from a total depth of 7,367 feet to 6,095 feet, where a whipstock will be set and the hole sidetracked. This test swabbed a little oil in a test several months ago in sand at 6,005-31 feet, but failing to develop commercial production at that depth was deepened.

Another test drilling in the vicinity of Nome is the Texas Co.'s No. 1 Bevel, about a half mile southwest of the Sun and Shell's test. It was down 5,850 feet on the last report and is expected to reach the same sand found in the Sun and Shell's test shortly.

Hull Test

Developments in the Hull Field in Liberty County show two new operations and two other tests nearing completion. Gulf Production Co.'s No. 94 Phoenix and Yount Lee Oil Co.'s No. 4 Hooks-Sterling were both new locations. Humble Oil & Refining Co.'s Nos. 28 and 29 Hooks-Guedry are on the pay sand and are expected to be completed this week.

Liberty County

Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Survey, at Esperson, Liberty County, was plugged back from a total depth of 5,564 feet to 4,460 feet, where it was making 400 bbls. of fluid, the percentage of oil and water not being known at this time. This well extends the production at Esperson approximately a half mile to the south and west. The same company's No. 7 Davis, in the same field, was drilling at 7,510 feet on the last report.

Victoria County

In the Coleta Creek district of Victoria County, John F. Camp's No. 1 Maurer, R. Manchola Survey, found a showing of oil in sand from 4,441-56 feet. Three attempts were made to take a drill stem test of this oil showing, but they all failed. Casing will be set and cemented on top of the sand and a production test made of this oil show.

The only other test drilling in the vicinity is Cox and Calvert's No. 1 Dietzel, located about a mile and a half southeast of the No. 1 Maurer test, which is drilling at 4,175 feet.

Wildcat Operations in Gulf Coast

(Continued from Page 51)

Humble O. & R. Co.'s No. 21-A Lockwood & Sharp, John Rabb Sur. ..... T.D. 5,287 ft.; standing.
Humble O. & R. Co.'s No. 25-A Lockwood & Sharp, John Rabb Sur., 2,372 ft. W of E line, 379 ft. S of N line of survey ..... Drlg. lime 2,708 ft.
West-Len Oil Co.'s No. 1 Mulahill, 300 ft. N of S line, 300 ft. W of E line ..... Drlg. shale 5,416 ft.

SUGARLAND—FORT BEND COUNTY

Dewalt Oil Co.'s No. 1 Peterson ..... Derrick.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 2 Broussard-Orme, Martin Dunman Sur., 300 ft. S of No. 1-B Cade ..... Drlg. hard sand 4,490 ft.
Yount Lee Oil Co.'s No. 38 Cade, 600 ft. NW of No. 1-B Cade, 755 ft. from No. 1 Smith, N. Fitzsimmons Sur. ..... Shale 4,669 ft.
Yount Lee Oil Co.'s No. 37 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 36 ..... Cmtd. csg. 5,605 ft.
Yount Lee Oil Co.'s No. 1-B Smith ..... Drlg. sand 5,163 ft.
Yount Lee Oil Co.'s No. 19 Smith, Martin Dunman Sur., 150 ft. N at R/A from center of line between 14 and 15 ..... Drlg. sand 4,936 ft.

ARRIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 6 Arriola fee, 2,150 ft. S of N line, 5,050 ft. E of W line of lease, Arriola Sur. ..... Rigging.

BATSON—HARDIN COUNTY

W. G. Christian's No. 1 Buchanan, J. Milhone Sur., 1,-300 ft. W of E line, 50 ft. N of S line, Strip 17 ..... Fishing 2,106 ft.
Danciger O. & R. Co.'s No. 2 Hooks, W. Donoho Sur., 330 ft. E of CWL, Blk. 24 ..... Drlg. sand 4,054 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 104 Jordit fee, 50 ft. N of No. 94 ..... Drlg. gumbo 640 ft.
Seismo Oil Co.'s No. 1 Caswell, 940 ft. S of NW cor. and 600 ft. from E line, B.B.B.&C. Sur. ..... Drlg. shale 2,225 ft.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Sour Lake Bank, H.&T.C. Sur., NW cor. Blk. 11, Sec. 69 ..... T.D. 2,050 ft.; standing.

GOOSE CREEK—HARRIS COUNTY

Gulf Prod. Co.'s No. 17-A Tabb, Wm. Scott Sur., 1,-288 ft. N line, 50 ft. E line (W.O.) ..... Comp. 1,000 bbls.; ¾-in. choke, 4,502 ft.
McPhail & Atkins' No. 1 Harral, Wm. Scott League, 600 ft. W and N from Humble's No. 1 Harral ..... Rigging.
Smith-Faust's No. 1 Washington-Texas Prod. Co., Wm. Scott Sur., 200 ft. W of E line, 75 ft. S of N line, 2 acres ..... T.D. 2,065 ft.; cmtd. csg.

HUMBLE—HARRIS COUNTY

Texas Co.'s No. 37 House, M. O. Owens Sur., 430 ft. NW of No. 8 ..... Drlg. shale 3,354 ft.
Wilson Pet. Co.'s No. 1 Cicero (W.O.) ..... Fishing 3,680 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 3 Minnetex, 100 ft. N line, 100 ft. E line, of W½ Blk. 251, Wm. Lovett Sur. (W.O.) ..... No report.

PIERCE JUNCTION—HARRIS COUNTY

Cogswell et al's No. 1 Herman est. (W.O.) ..... Drlg. shale 4,909 ft.
Gulf Prod. Co.'s No. 37 Taylor, 980 ft. S, 975 ft. W of NW cor. J. Hamilton Sur. No. 52 ..... Drlg. shale 3,894 ft.
Rio Bravo Oil Co.'s No. 25-A Settegast, 625 ft. W, 535 ft. N of SE cor. A Lease, J. Kopman Sur. (W.O.) ..... T.D. 4,421 ft.; sidetracked at 3,-773 ft.; drlg. shale 3,991 ft.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp.'s No. 1 Bode, J. Hooper Sur., 686 ft. from E and W lines, 320 ft. from S line of lease. Rigging.
Amerada Pet. Corp. et al's No. 1 Fletcher, J. House Sur., 163 ft. N line, 1,852 ft. S line of lease ..... Comp. 2,500,000 ft. gas; 11/64-in. choke, 5,591 ft.
Amerada Pet. Corp.'s No. 1 Nelson, 466 ft. from S line, 410 ft. from W line, Joseph House Sur. ..... Derrick.
Humble O. & R. Co.'s No. 1 Kuehn, 1,399 ft. out of the SW cor. W. Usener Sur., 200-ac. tract ..... Drlg. shale 4,533 ft.
Humble O. & R. Co.'s No. 1 Shearer, J. N. Hooper Sur., 466 ft. out of NE cor. of 80-ac. tract ..... Drlg. shale 5,575 ft.
Humble O. & R. Co.'s No. 1 W. Theis, J. H. Edwards Sur., 1,399 ft. N line, 466 ft. W line of lease ..... Derrick.
Humble O. & R. Co.'s No. 1 Treichel, 466 ft. from SW cor. 109-ac. tract, C. Goodrich Sur. ..... Rigging.
Texas Co.'s No. 1 E. Hillequist, 515 ft. W, 466 ft. N of SE cor. of 100-ac. tract, Joseph House Sur. ..... Drlg. sand 665 ft.
Texas Co.'s No. 1 O. Hillequist, 466 ft. N of S line, 400 ft. W of E line of lease, Joseph House Sur. .... Rigging.
Stanolind O. & G. Co.'s No. 3 Theis, J. H. Edwards Sur., 466 ft. N, 404 ft. W of SE cor. of lease ..... Derrick.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 14 Thomas, 951 ft. W, 100 ft. N of SE cor. of 446-ac. tract, Wm. Smith Sur. ..... Drlg. sand 3,177 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 7 Davis (W.O.), Duncan Sur. .. Drlg. shale 7,510 ft.
Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Sur., 2,100 ft. from N line, 1,069 ft. from E line of 632-ac. tract ..... T.D. 5,564 ft.; P.B. to 4,460 ft.; flowing 400 bbls. fluid.

HULL—LIBERTY COUNTY

W. B. Flynn's No. 2 Flynn, J. Devore Sur., 25 ft. S No. 1 .. T.D. 1,900 ft.; abd.
Hannah Oil Co.'s No. 1 Hannah, J. Devore Sur. (W.O.) .. Rigging.
Hannah Oil Co.'s No. 2 Hannah, J. Devore Sur. ..... Derrick.
Humble O. & R. Co.'s No. 28 Hooks-Guedry, 100 ft. S, 15 ft. E line of lease, J. Devore Sur. ..... Drlg. shale 4,595 ft.
Humble O. & R. Co.'s No. 29 Hooks-Guedry, J. Devore Sur. ..... T.D. 4,655 ft.; cmtd. csg.
Liberty-Hull Oil Co.'s No. 2 Mecom fee ..... Rigging.
Sun Oil Co.'s No. 1 Carr, 50 ft. each way out of NE cor. of 60-ac. tract, J. Devore Sur. ..... Drlg. shale 4,341 ft.
Yount Lee Oil Co.'s No. 4 Hooks-Sterling, J. Devore Sur., 150 ft. S of N line, 535 ft. W of E line of lease .. Rigging.
Yount Lee Oil Co.'s No. 3 Hooks-Sterling, Jesse Devore Sur., 153 ft. S of N line, 150 ft. W of E line of 5-ac. tract ..... Comp. 64 bbls. per hour; ½-in. choke, 4,606 ft.

LIBERTY FIELD—LIBERTY COUNTY

Ross Oil Co.'s No. 1 Richardson, M. G. White Sur., 120 ft. E of Gulf-Humble's No. 1 Carter ..... Derrick.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 1 Hensley ..... Drlg. shale 1,900 ft.
Alpha Pet. Co.'s No. 5 South Tex. Dev. Co., 466 ft. N line, 933 ft. E of No. 1, T.&N.O. No. 13 Sur. .. ... Comp. 12 bbls. per hour; ½-in. choke, 5,084 ft.
Feltex Oil Co.'s No. 2 Kirby-Bertrand, G. W. Wages Sur., 225 ft. from N and E lines of lease ..... Rig.
Feltex Oil Co.'s No. 1 Llewelen, 466 ft. from N line, 3,712 ft. from W line of survey ..... Sand 5,145 ft.; cmtd. csg.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley, A. Steele Sur., 466 ft. S line in center E and W of strip ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 12 Keystone Mills, A. James Sur., 467 ft. W line, 933 ft. S of No. 11 .. Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 14-A Keystone Mills, James Sur., 340 ft. W of No. 3 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 15-A Keystone Mills, A. James Sur., 350 ft. W of No. 14 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 17-A Keystone Mills, A. James Sur., 350 ft. W of No. 16 ..... Drlg. shale 5,055 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 18-A Keystone Mills, 933 ft. NE of No. 10 ..... Drlg. shale 5,005 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 19-A Keystone Mills, A. S. James Sur. ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 28-A Keystone Mills, A. S. James Sur. ..... Derrick.
Gulf Oil & Sulphur Co.'s No. 2 Springfield, J. S. Springfield Sur., 466 ft. from SW line, 100-ac. lease ..... Derrick.
Hooper & Rutherford's No. 6 Hooper, L&G.N. Sur., half way between 1 and 2 ..... Drlg. shale 1,350 ft.
Humble O. & R. Co.'s No. 1-F Alexander (relief well) .. Drlg. shale 2,035 ft.
Humble O. & R. Co.'s No. 8 A. Cartright ..... Drlg. shale 4,005 ft.
Humble O. & R. Co.'s No. 1 Dodson & Williams ..... Drlg. shale 295 ft.
Humble O. & R. Co.'s No. 9 Emory ..... Cmtd. csg. 5,143 ft.
Humble O. & R. Co.'s No. 21 Madeley ..... Drlg. shale 3,179 ft.
Humble O. & R. Co.'s No. 27 Madeley, Ransom House Sur. ..... Drlg. shale 4,070 ft.
Humble O. & R. Co.'s No. 17 Moore ..... Drlg. shale 2,305 ft.
Humble O. & R. Co.'s No. 19 Moore ..... Drlg. shale 4,495 ft.
Humble O. & R. Co.'s No. 52 South Tex. Dev. Co., T. Slade Sur. ..... Comp. 98 bbls. per hour; ½-in. choke, 5,151 ft.
Humble O. & R. Co.'s No. 54 South Tex. Dev. Co., T. Slade Sur., 933 ft. E of No. 26 ..... Shale 5,148 ft.
Humble O. & R. Co.'s No. 56-A South Tex. Dev. Co., T. Slade Sur. ..... Drlg. shale 913 ft.
Humble O. & R. Co.'s No. 57 South Tex. Dev. Co., T. Slade Sur., 350 ft. N of No. 34 ..... Comp. 82 bbls. per hour; ½-in. choke, 5,160 ft.
Humble O. & R. Co.'s No. 59 South Tex. Dev. Co., T. Slade Sur. ..... Shale 5,150 ft.
Humble O. & R. Co.'s No. 4-D South Tex. Dev. Co., T.&N.O. Sur. ..... Drlg. shale 2,640 ft.
Humble O. & R. Co.'s No. 1-F South Tex. Dev. Co., T.&N.O. Sur. ..... Drlg. shale 4,864 ft.
Pine Tree Oil Co.'s No. 1 South Tex. Dev. Co., T.&N. O. Sur. No. 13, 1,600 ft. W line, 210 ft. S line of Sur. Drlg. shale 1,600 ft.
Strake Pet., Inc.'s No. 2 Hammond ..... Drlg. 2,188 ft.
Strake Pet., Inc.'s No. 2 Krohn, Stephen Bryan Sur. .. Cmtd. csg. 5,129 ft.
Sun Oil Co.'s No. 24 Foster, 2,240 ft. SW of NE line, 2,040 ft. SE of NW line, J. Bricker Sur. ..... Drlg. shale 2,605 ft.
Sun Oil Co.'s No. 30 Foster ..... Drlg. shale 5,072 ft.
Sun Oil Co.'s No. 32 Foster ..... Derrick.
Sun Oil Co.'s No. 4 Keystone Mills, A. Steele Sur., 1,-065 ft. S of No. 3 ..... Drlg. shale 4,941 ft.
Sun Oil Co.'s No. 10 Keystone Mills, A. Steele Sur. .... Derrick.
Sun Oil Co.'s No. 2 McDonald, 1,275 ft. S of No. 1, Wilson Strickland Sur. ..... Drlg. shale 5,113 ft.
Texas Unity Oil Co.'s No. 1 Stevens, L. Smith Sur., 1,-316 ft. E line, 223 ft. N line of lease ..... Drlg. shale 3,841 ft.
Tice Water Oil Co.'s No. 29 Lewis, 933 ft. E of No. 1, C. B. Stewart Sur. ..... Comp. 88 bbls. per hour; ½-in. choke, 5,120 ft.
West Prod. Co.'s No. 1 Foster Lbr. Co., 467 ft. N line, 650 ft. W line, Sec. 3, T.&N.O. Sur. ..... T.D. 5,200 ft.; rigging up to pump.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 12 Hager-Moore (W.O.) ..... Drlg. sand 5,365 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... Drlg. sand 1,914 ft.
Texas Co.'s No. 4 Kuhn, 150 ft. E, 150 ft. N of NW cor. of lease ..... Drlg. sticky shale 3,760 ft.
Texas Co.'s No. 5 Kuhn, 693 ft. from E line, 150 ft. from N line of SE cor. of lease, M. Hall No. 2, T. J. Notgrass Sur. ..... Drlg. shale 268 ft.

LIVINGSTON—POLK COUNTY

Vick Borsodi et al's No. 1 West, E 3½ acres of 35 acres, Roberts tract A, Viesca Sur. ..... T.D. 4,370 ft.; P.B. to 4,366 ft.; fishing.
Gist Oil Co.'s No. 1 Kingsbury County Holding Corp., A. Viesca Sur., 150 ft. N at R/A and 193 ft. E along S line of tract ..... Drlg. shale 512 ft.
Humble O. & R. Co.'s No. 3 Grandbury, 6,000 ft. W of No. 1, A. Viesca Sur. ..... Drlg. shale 4,607 ft.
Humble O. & R. Co.'s No. 4 Grandbury, M. C. Swirney Sur., 550 ft. from NE, 289 ft. from SE R/A out of NW cor. of lease ..... Drlg. shale 3,822 ft.
Polk County Dev. Co.'s No. 1 W. R. Crockett, 202 ft. N and S lines, 330 ft. W line of Crockett 12-ac. tract.. Drlg. shale 4,338 ft.
Shell Pet. Corp.'s No. 1 J. Duff, 438 ft. NW, 33 ft. NE lines of lease, A. Viesca Sur. ..... Drlg. shale 4,246 ft.
Shell Pet. Corp.'s No. 1 Jones, 535 ft. from E line, 1,248 ft. from S line of A. Jones lease, A. Viesca Sur. ..... Drlg. shale 1,832 ft.
Shell Pet. Corp.'s No. 1 Munson, 305 ft. S line, 770 ft. from E and W lines of Munson 50-ac. tract ..... Drlg. shale 3,830 ft.
Skelly Oil Co.'s No. 2 Sanders, 300 ft. S line, 755 ft. E line of lease, A. Viesca Sur. ..... Comp. 342 bls. in 16 hrs.; ¼-in. choke, 4,329 ft.

GRETA—REFUGIO COUNTY

Atlantic-Alamo's No. 1-F J. M. O'Brien ..... Drlg. shale 914 ft.
Atlantic-Alamo's No. 2-F J. M. O'Brien, 466 ft. from S and W lines of lease, M. J. Ximines Sur. ..... Drlg. shale 1,005 ft.
Atlantic Oil Prod. Co.'s No. 5-C O'Brien, 1,193 ft. S of N line, 628 ft. E line ..... Drlg. sand 4,399 ft.
Atlantic Oil Prod. Co.'s No. 1 J. F. E. Heard, 466 ft. E of W line, center N and S line, 150-ac. tract, J. H. Peoples Sur. ..... Drlg. sand 4,393 ft.
Circle W Oil Co.'s No. 9 O'Brien, 1,007 ft. S of No. 8.. Drlg. shale 4,352 ft.
Circle W Oil Co.'s No. 10 O'Brien, 1,007 ft. N of No. 9.. Drlg. shale 1,945 ft.
Daah Prod. Co.'s No. 2-E O'Brien, N. S. Crunk Sur., 466 ft. N of SE line, center E and W of tract .... Derrick.
Floboots Oil Corp.'s No. 1 M. C. Bauer, 330 ft. N line, 1,724 ft. from W line, J. M. Ximines Sur. ..... Derrick.
Floboots Oil Corp.'s No. 1 J. J. O'Brien, 466 ft. S of N line, 466 ft. E line, 50-ac. tract, N. S. Crunk Sur.. Drlg. sand 4,395 ft.
Floboots Oil Corp.'s No. 2 J. J. O'Brien, 1,055 ft. W of E line, 391 ft. S of N line, M. J. Ximines Sur. ..... Sand 4,385 ft.; drlg. cmt. plug.
G. L. Gray Oil Corp.'s No. 1 F. Heard, 466 ft. E of W line, 486 ft. S of N line of NW 40-ac. tract out of Heard's 377-ac. tract ..... Sand 4,373 ft.; drlg. plug.
Hewitt & Daugherty's No. 3 M. F. Lambert, 2,530 ft. E of NW cor., Harper Sur., 466 ft. S in Hardwick Sur. ..... Drlg. shale 4,337 ft.
Humble O. & R. Co.'s No. 1 F. Heard, 466 ft. out of NW cor. Ximines Sur. ..... T.D. 3,030 ft.; blowing wild.
Humble O. & R. Co.'s No. 2 Heard, 466 ft. S of most southerly N line, 303 ft. E of most westerly line, N. S. Crunk Sur. ..... Rigging.
Edwin M. Jones' No. 3-A J. M. O'Brien, N. S. Crunk Sur., 950 ft. S and W lines of lease ..... Comp. 10 bbls. per hour; ¼-in. choke, 4,392 ft.
Edwin Jones' No. 4-A O'Brien, 466 ft. N of S line, 466 ft. E of W line of 227-ac. tract, N. S. Crunk Sur. .. Drlg. 910 ft.
Edwin M. Jones' No. 8-A O'Brien, N. S. Crunk Sur., 466 ft. W of E line, 1,629 ft. N of S line of lease.. Derrick.
Edwin Jones' No. 9-A O'Brien, 466 ft. out NE cor. of lease, N. S. Crunk Sur. ..... Cag. cmtd. 1,119 ft.
Nesral Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract ..... T.D. 5,962 ft.; P.B. to 1,700 ft.; drlg. new hole 5,933 ft.
Nesral Oil Co.'s No. 1 V. E. Heard, 466 ft. N line, 266 ft. W line, M. J. Ximines Sur. ..... Drlg. shale 5,932 ft.
Nesral Oil Co.'s No. 4 O'Conner ..... Drlg. cmtd. plug. 4,396 ft.
Nesral Oil Co.'s No. 3 O'Conner, 466 ft. from E line, 466 ft. from S line, N. S. Crunk Sur. ..... Drlg. shale 1,300 ft.
Southwest Oil Corp.'s No. 4-B O'Brien, N. S. Crunk Sur., 466 ft. N of S, 466 ft. E of W line of lease.. Derrick.
Southwest Oil Corp.'s No. 1 Thos. O'Conner, N. S. Crunk Sur., 466 ft. from N line, 466 ft. from W line of lease ..... Drlg. shale 2,253 ft.
Standard of Kansas' No. 1 O'Conner, 466 ft. from N line, center E and W of lease, N. S. Crunk Sur. .. Drlg. shale 256 ft.
Stanolind-Atkins' No. 1 Welder, 466 ft. S line, 313 ft. W line of 300-ac. tract, J. T. McGrew Sur. ..... Drlg. sand and lime 3,021 ft.
Texas Gulf Prod. Co.'s No. 3-A J. M. O'Brien, 1,088 ft. W of E line, 466 ft. S at R/A, J. H. Peoples Sur. .. Derrick.
Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. H. Winfield Sur., 466 ft. N-S line, center E and W, Blk. 13.. Moving in material.
Trinity Drillers' No. 1 Welder, J. T. McGrew Sur., 466 ft. from S and W lines, J. F. Welder 200-ac. tract.. Drlg. shale 801 ft.
United Prod. Co.'s No. 10 Fox, 894 ft. NE of No. 9, Hews & Brown Sur. ..... Drlg. sand 4,402 ft.
United Prod. Co.'s No. 11 Fox, 867 ft. NE of No. 10, Hews & Brown Sur. ..... Drlg. shale 4,370 ft.
United Prod. Co.'s No. 5 Lambert, 700 ft. W, 600 ft. S from NE cor. of lease, E. W. Harper Sur. ..... D.S. test open 11 min. showed 5 fourbies of oil, 3,486-3,501 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 9 Clay, J. F. Perry Sur., 1,136 ft. NE of No. 5 ..... Drlg. shale 345 ft.

SOUTH LOUISIANA FIELDS

ACADIA PARISH

Mills Bennett Prod. Co.'s No. 1 Riverside, 1,400 ft. S, 467 ft. E of NW cor. Sec. 61-9s-2w ..... Rigging.
Superior Oil Co.'s No. 1 P. O. Hernandes, 990 ft. W, 990 ft. S of NE cor. SE Sec. 34-8s-3e ..... Derrick.
I. M. Pharris' No. 1 Link Bros., 150 ft. S, 150 ft. E, NW cor. Sec. 36-7s-1e ..... Drlg. gumbo 475 ft.

DARROW—ASCENSION PARISH

Gulf Ref. Co.'s No. 1 Darrow Community, 600 ft. due N, 100 ft. due W, Rio Bravo's No. 1 Community.... Abd. 4,883 ft.

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 17 Watkins, 660 ft. E of No. 15, in Sec. 18-12s-12w ..... Drlg. shale 1,125 ft.

CAMERON MEADOWS—CAMERON PARISH

Humble O. & R. Co.'s No. 4 Cameron Meadows, 360 ft. N, 600 ft. W, SE cor. Sec. 21-14s-13w ..... Drlg. shale 4,726 ft.
Humble O. & R. Co.'s No. 5 Cameron Meadows, 2,260 ft. W, 28 ft. S of NE cor. Sec. 21-14s-14w..... Driving piling.
Burton-Sutton Oil Co.'s No. 2 School Land, 1,866 ft. W, 150 ft. N of SE cor. Sec. 16-14s-13w ..... Driving piling.

CAMERON PARISH

Southern Sulphur Co.'s No. 1 Gulf of Mexico, 330 ft. S, 338 ft. E of SW cor. Sec. 29-15s-10w ..... T.D. 3,275 ft.; standing.
Texas Co.'s No. 9 State, Calcasieu Lake, 16,055 ft. W, 3,270 ft. N, NE cor. Sec. 1-14s-9w ..... Drlg. shale 1,720 ft.

CALCASIEU PARISH

Gulf Ref. Co.'s No. 1 Sweet Lake Oil Co., 660 ft. N, 330 ft. E of SW cor. Sec. 29-10s-5w ..... Drlg. shale 5,370 ft.
Fred Oil Co.'s No. 1 Farsst, 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w ..... Drlg. shale 540 ft.
Union Sulphur Co.'s No. 1 Barbe, 2,681 ft. W, 2,647 ft. S of NE cor. Sec. 1-9s-8w ..... Drlg. sand 4,374 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 33-9s-11e..... Drlg. rock 3,048 ft.

EAST BATON ROUGE PARISH

British-American Oil Co.'s No. 1 Louisiana, 2,750 ft. NE NW cor. Sec. 79, and 1,700 ft. N of NE Sec. 79, in Sec. 6-8s-1e ..... T.D. 5,536 ft.; washing to bottom.

EDGERLY—CALCASIEU PARISH

S. A. Emerson's No. 13 Hunter, 465 ft. N, 90 ft. E, SW cor. Sec. 21-9s-11w (W.O.) ..... Standing 4,113 ft.
Union Sulphur Co.'s No. 1 Hunter, 210 ft. E, 1,360 ft. N of SW cor. SE Sec. 21-9s-11w ..... Drlg. lime 3,806 ft.
Yount Lee Oil Co.'s No. 1 Sulphur Mining Co., 150 ft. S, 300 ft. W, NE cor. Sec. 33-9s-11w ..... Drlg. shale 4,450 ft.

EVANGELINE PARISH

J. E. Ledau's No. 3 Vidrine, 30 ft. S of No. 2, Sec. 47-3s-3e ..... Drlg. shale 385 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 5 Mulvey, 500 ft. from No. 2 Mulvey, in line with Nos. 1 and 2 ..... Drlg. lime 4,162 ft.

HACKBERRY—CAMERON PARISH

Wilford Lahay et al's No. 1 Roux (W.O.) ..... Drlg. shale 3,070 ft.
J. G. Sutton's No. 1 Little, 2,221 ft. W, 1,670 ft. N, SE cor. Sec. 22-12s-10w (W.O.) ..... Drlg. sand 3,054 ft.
Texas Co.'s No. 11-B State ..... Derrick.
Union Sulphur Co.'s No. 1 Barber est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 13-12s-10w..... Drlg. shale 6,438 ft.
Union Sulphur Co.'s No. 8 Humble..... Drlg. sand 5,793 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 3 Fontenat, 1,627 ft. S, 330 ft. W from SW cor. Sec. 7-9s-6w..... Rigging.
Magnolia Pet. Co.'s No. 1 Le Blew, 670 ft. W, 330 ft. S of NE cor. SE Sec. 14-9s-7w ..... Drlg. shale 3,575 ft.
Magnolia Pet. Co.'s No. 5 Waite, 660 ft. E, 300 ft. N, SW cor. SE Sec. 12-9s-7w ..... Rigging.
Shell Pet. Corp.'s No. 1 Tuten, 265 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w ..... Drlg. sand 6,282 ft.
Shell Pet. Corp.'s No. 1 Johnson, 265 ft. S, 330 ft. E of NW cor. SW Sec. 18-9s-6w ..... Drlg. gumbo 2,527 ft.
Shell Pet. Corp.'s No. 1 C. Le Blew, 660 ft. W, 330 ft. N of SE cor. of lease ..... Drlg. gumbo 2,194 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 2 Devilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-9s-4w ..... Drlg. sand 3,272 ft.
Shell Pet. Corp.'s No. 1 Kratzs, 660 ft. S, 330 ft. W of NE cor. NW Sec. 12-9s-4w ..... Drlg. shale 1,511 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-2w, 300 ft. E of No. 12 ..... Drlg. shale 6,700 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 1 Harang, Lot 3, Twp. 17s-20e.. Drlg. shale 6,624 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E.-Lake Barre, 4,543 ft. S, 503 ft. W of NW cor. Sec. 30-21s-20..... Derrick.
Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 13 ..... T.D. 4,888 ft.; P.B. to 4,756 ft.
Texas Co.'s No. 23 State-Lake Barre ..... Drlg. salt 1,100 ft.
Texas Co.'s No. 25 State-Lake Barre ..... Drlg. lime 1,937 ft.
Texas Co.'s No. 26 State-Lake Barre, 150 ft. northerly from No. 22 ..... Derrick.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 11 Cockrell & Moran ..... Gumbo 400 ft.; standing.
Humble O. & R. Co.'s No. 12 Cockrell & Moran ..... Standing 1,169 ft.
Humble O. & R. Co.'s No. 3 La. State, Twp. 20s-26e, 2,920 ft. N, 19 ft. E of station ..... Drlg. shale 3,572 ft.

LEESVILLE—LAFOURCHE PARISH

Gulf Ref. Co.'s No. 2 City of New Orleans, 260 ft. E, SE cor. Lot 4, Sec. 26-21s-22e ..... Drlg. shale 2,994 ft.
Gulf Ref. Co.'s No. 1 Community, Blk. C, 151 ft. N of S line, 100 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e ..... Drlg. gumbo 1,071 ft.
Gulf Ref. Co.'s No. 1 Community, Blk. E, 151 ft. N of S line, 150 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e ..... Derrick.
Gulf Ref. Co.'s No. 1 Le Fort, 100 ft. N of S line, 100 ft. W of N bank of Bayou La Fourche, Sec. 23-21s-22e ..... Drlg. shale 2,525 ft.
Hellis et al's No. 1 State-Bayou Lafourche, 315 ft. N along W side of bayou at R/A, 96 ft. E at R/A from SE cor. Lot 3, Sec. 26-21s-22 ..... Rigging.
Texas Co.'s No. 9 L.L.&E., 2,921 ft. S, 900 ft. W from NE cor. Sec. 27-21-22e ..... Drlg. shale 3,616 ft.
Texas Co.'s No. 10 L.L.&E., 3,500 ft. due S, 375 ft. due W of NE cor. Sec. 27-21s-22e ..... Rigging.
R. Y. Walker's No. 1 State-Bayou Lafourche, 930 ft. N along W line of Lot 6 from SW cor. section, thence 430 ft. at R/A, Sec. 26-21s-22 ..... Moving in material.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 7 Farquaher, 330 ft. S, 174 ft. W of NE cor. SW NE Sec. 8-10s-9w ..... Derrick.
Magnolia's No. 9 Farquahar, 200 ft. N, 150 ft. E of SW cor. NE SE Sec. 8-10s-9w (O.W.D.D.) ..... T.D. 6,677 ft.; cmtd. csg.
Magnolia Pet. Co.'s No. 11 Bordages, 660 ft. N, 490 ft. W of SE cor. NE NE Sec. 8-10s-9w ..... Rigging.
Magnolia Pet. Co.'s No. 4-A Watkins fee, 685 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w..... Drlg. shale 5,464 ft.
Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec. 36-12s-10w, 2-ac. tract ....Drlg. sand 3,572 ft.
Union Sulphur Co.'s No. 1 Moss (W.O.)..... T.D. 6,244 ft.; P.B. to 5,312 ft.

NEW IBERIA—IBERIA PARISH

G. D. Spell, 3,138 ft. SW cor. along W boundary line, then in a NE direction 1,140 ft. along N line of Bernard property in Sec. 54-12s-1e ..... Sand 2,460 ft.; standing.

IBERIA PARISH

Gross Tete Dev. Co.'s No. 1 Angellos ..... Drlg. gumbo 1,500 ft.

PLAQUEMINES PARISH

Southern Sulphur Co.'s No. 1 Bay Adams ..... Rig.

PORT BARRE—ST. LANDRY PARISH

Cale O. & G. Co.'s No. 1 Thompson ..... T.D. 3,412 ft.; fishing.
Campbell et al's No. 1 J. E. Jeonsonne, Sec. 7-6s-5e, 30 ft. N of S line in center E and W of 30-ac. tract.... Sand at 3,890 ft.; tested S.W.; standing.
Gulf Ref. Co.'s No. 5 Wilson-Cockran, 660 ft. N, 910 ft. E of No. 2, Sec. 4-6s-5e ..... Rigging.
Texas Co.'s No. 17 Botney Bay, 1,800 ft. S 8 deg. W, 600 ft. N 82 deg. west southern NE 560 deg. tract, Sec. 4-6s-5e ..... Derrick.
Texas Co.'s No. 18 Botney Bay ..... Sand 3,419 ft.; cutting and pulling screen.
Texas Co.'s No. 19 Botney Bay ..... Derrick.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 2 Lacy White Frank, 1,175 ft. N, 1,615 ft. W of SE cor. Sec. 16-10s-4e ..... Drlg. shale 3,810 ft.
Union Sulphur Co.'s No. 25 United Land ..... Drlg. shale 2,800 ft.

STARKS—CALCASIEU PARISH

Union Sulphur Co.'s No. 3 Industrial Lbr. Co., 2,400 ft. N, 412 ft. W, SE cor. Sec. 19-9s-12w ..... Salt 4,426 ft.; P.B. to 2,400 ft.; drlg. new hole, sand 3,427 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 779 fee, 1,153 ft. N, 795 ft. E of center of Sec. 29-9s-10 ..... Sand 2,605 ft.; comp. 300 bbls.; ⅝-in. choke.
Union Sulphur Co.'s No. 786 fee ..... Drlg. shale 5,157 ft.
Union Sulphur Co.'s No. 787 fee, 119 ft. from N line, 1,632 ft. from W line of C Sec. 29-9s-10w..... Drlg. rock 1,882 ft.
Union Sulphur Co.'s No. 788 fee, 602 ft. S, 1,209 ft. W. of C Sec. 29-9s-10w ..... Rigging.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e ..... Cmtd. csg. 212 ft.
Southern Sulphur Co.'s No. 1 State Lake Bargne, 350 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e ..... Cmtd. csg. 650 ft.

ST. LANDRY PARISH

Gaunch Synd.'s No. 1 Lewis, 300 ft. N and E of SW cor. NW NE Sec. 29-5s-6e ..... Shale 3,285 ft.; standing.
H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e ..... Cmtd. csg. 710 ft.

ST. MARTIN PARISH

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... T.D. 6,010 ft.; reaming to set 7-in. csg.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 300 ft. S of No. 11, in line with Nos. 9 and 11, Sec. 12-13-3w..... Rigging.

TERREBONNE PARISH

Texas Co.'s No. 9 State-Dog Lake ..... Drlg. shale 4,616 ft.
Texas Co.'s No. 9 State-Caillou Island ..... Comp. 2,122 bbls.; ½-in. choke, 4,070 ft.
Texas Co.'s No. 10 State-Caillou Island..... Derrick.
Texas Co.'s No. 2 School Board-Bay St. Elaine ..... Drlg. shale 4,594 ft.
Texas Co.'s No. 2 State-Four Isle ..... Drlg. clay 240 ft.
Texas Co.'s No. 1 State Bay-St. Elaine, 3,900 ft. N, 2,300 ft. E of SW cor. Sec. 8-22s-18e ..... Moving in.
Texas Co.'s No. 10 State-Lake Pelto, 420 ft. N, 1,246 ft. E, SW cor. Sec. 4-23s-18e ..... Drlg. shale 985 ft.

VERMILLION PARISH

Hammill & Smith's No. 1 Faulk, 600 ft. S, 400 ft. E of NW cor. Sec. 5-12s-3e ..... Drlg. clay 300 ft.

VERNON PARISH

Glen J. Smith's No. 1 Fullerton Mineral Co., 330 ft. N and E, SW cor. Sec. 32-1n-5w ..... Drlg. shale 4,667 ft.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 16 Gray, 426 ft. N, 658 ft. E of SW cor. Sec. 33-10s-12w ..... Rigging.
Starks & Broker's No. 11 A. J. Vincent, NW cor., SE Sec. 33-10s-12w ..... Moving in material.
Wilson Broach's No. 4 Wilson ..... Abd. 3,806 ft.
Wilson Broach's No. 10 Wilson Strip, 650 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w..... Derrick.
Gulf Ref. Co.'s No. 7 J. W. Gardner, 308 ft. E. 550 ft. N, SW cor. SE NE Sec. 33-10s-12w..... Comp. 225 bbls.; ⅛-in. choke. 3,303 ft.
Gulf Ref. Co.'s No. 8 Gardner, 350 ft. from S line in center Strip No. 6, Sec. 33-10s-12w ..... Derrick.
Union Sulphur Co.'s No. 1 Vincent ..... Drlg. sand 4,013 ft.
Vinton Pet. Co.'s No. 7 Rescue (W.O.), 400 ft. W, 600 ft. S of NE cor. Sec. 4-11s-12w ..... Sand 2,974 ft.
Vinton Pet. Co.'s No. 22 Vincent, 685 ft. N, 620 ft. E of SW cor. Sec. 34-10s-12w..... Abd. 2,774 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Tibbetts et al's No. 1 Heideman, 4,320 ft. W along N line from NE cor. of A. Larson Sur. in J. Cooper Sur., thence 416 ft. N at R/A ..... Shale 235 ft.; standing.
R. R. Mitchell's No. 1 H. Schlerda, J. F. Fitzgibbons Sur., 300 ft. out NE cor. 96-ac. tract ..... Moving in material.

BRAZORIA COUNTY

Barnsdall Oil Co. and Superior Oil Co. of Calif.'s No. 1 McCain, W. C. D. Hall Sur., 1,116 ft. N, 330 ft. E of SW cor. of Lot 65 ..... Drlg. shale 4,925 ft.
Danciger O. & R. Co.'s No. 1 L. Williams, 706 ft. NE line, 726 ft. SE line of 180-ac. tract, W. C. Carson Sur. ..... Drlg. shale 4,605 ft.

BRAZOS COUNTY

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isack Curil Sur. ..... Cmtd. surface csg.
Liner et al's No. 1 Peters, 300 ft. SE line, 300 ft. SW line of E. V. Peter fee, G. Powell Sur. ..... Derrick.
F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line ..... T.D. 1,487 ft.; gas sand 1,393-1,420 ft.; cmtd. 8¼-in. csg. 1,-385 ft.; standing.

BURLESON COUNTY

Berry & Hays' No. 1 Young, 250 ft. from SW, 1,089 ft. from SE of 147-ac. tract, John Bird Sur. ..... Drlg. 1,200 ft.
Poor Boy Oil Co.'s No. 2 Palinsky, A. G. Lawrence Sur., 300 ft. due S of No. 1 ..... Drlg. shale 1,025 ft.

CHAMBERS COUNTY

Smith & Lavender's No. 1 McCormick, F. Ludlow Sur., 150 ft. NE cor. ..... Derrick.

COLORADO COUNTY

Hughes-Patrick Oil Co.'s No. 1 Lake Side Irrigation, 1,500 ft. SE, 500 ft. NE NW cor. Patrick Reel Sur. ..Drlg. shale 4,215 ft.
Plymouth Oil Co.'s No. 2 Ream, 1,000 ft. SW of No. 1, I.&G.N. Sur. ..... Drlg. shale 1,710 ft.
Weimar Dev. Co.'s No. 1 Janecka, H. Austin Sur. ..... Drlg. shale 2,025 ft.

FAYETTE COUNTY

Colorado Oil Corp., J. Winn Sur., 650 ft. NE of center of SW line of 62.8-ac. tract ..... T.D. 2,139 ft.; standing.

FORT BEND COUNTY

A. N. Phillips et al's No. 1 Grigar, 2,150 varas E line, 1,550 varas N line, J. S. O'Connor Sur. ..... T.D. 700 ft.; standing.
Quintana Oil Co. and Great So. Life's No. 1 Great So. Life, Ed Robertson Sur., 500 ft. S of N line, 500 ft. W of Brazos River ..... Drlg. sand 7,474 ft.

GRIMES COUNTY

Clark & Dodd's No. 1 Murry, 150 ft. W line, 300 ft. S line, Anderson Sur. ..... Spudded; standing.
Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.
Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... Standing 65 ft.
Humble O. & R. Co.'s No. 1 Henderson, 750 ft. S, 700 ft. W at R/A of NE cor. of lease, G. W. Seaton Sur. ..... Drlg. shale 2,057 ft.
H. C. Ratcliff's No. 1 Fulgham, A. Tuttle Sur., 600 ft. N line, 540 ft. W line of lease ..... Derrick.

HARRIS COUNTY

J. A. Hodges' No. 1 Scott, 200 ft. S, 900 ft. W of intersection of Crosby Huffman, F. Rankin Sur. ..... Drlg. shale 2,265 ft.
G. T. Lewis, tr.'s No. 1 Gore, S. McKissick Sur., 518 ft. SW along SE line of 100-ac. tract from W cor. of S. V. Allen's 105-ac. tract and 500 ft. NW at R/A in 100-ac. tract (W.O.) ..... Drlg. lime 6,016 ft.
Russell et al's No. 1 Burt & Griffith, S. Keely Sur., 200 ft. N line, 200 ft. E of highway ..... T.D. 2,156 ft.; standing.
Jack Schultz et al's No. 1 Synd. Land Co., 2,200 ft. N of S line, 200 ft. W from SE cor. Pruitt Sur. ... Drlg. shale 5,280 ft.
E. E. Young et al's No. 1 Paddock, J. Cunningham Sur., 300 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Standing 1,800 ft.

HOUSTON COUNTY

Thompson et al's No. 1 E. W. Harrison, 330 ft. out E cor. 130-ac. tract, J. Masters, Sr., Sur. ..... Standing 4,379 ft.

JACKSON COUNTY

Ed Parsons et al's No. 1 Clark, 300 ft. out SW cor. of R. J. and M. Clark lease, A. S. White Sur. ..... Drlg. shale 3,085 ft.

JEFFERSON COUNTY

Lucky Strike Oil Co.'s No. 1 Walker, D. Easley Sur., 2,100 ft. N, 1,400 ft. E of NW cor. of Lot No. 13.. Drlg. shale 250 ft.
Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 32 ..... T.D. 7,367 ft.; P.B. to 6,095 ft.
Texas Co.'s No. 1 J. R. Bevil, 150 ft. each way out of NE cor. of lease, Brown & Caswell Sur. ..... Drlg. gumbo 5,810 ft.

LEON COUNTY

Shell Pet. Corp.'s No. 1 A. Beggs, 406 ft. N, 1,128 ft. E of inside line of lease, John Carter Sur. ..... Drlg. shale 6,072 ft.

LIBERTY COUNTY

W. W. Algren, tr.'s No. 1 Nona Mills Lbr. Co., J. E. Mayfield Sur., 400 ft. from W, 200 ft. from N line of lease ..... Shale 5,840 ft.; standing.
Gulf Prod. Co.'s No. 1 Kirby Lbr. Co., 900 varas S of N line, 1,400 varas E of W line, J. Pleasant Sur. .... Drlg. shale 2,701 ft.
Layton et al's No. 1 J. A. Lovett, 200 ft. W of E line, 600 ft. N of S line of lease, P. P. Devers Sur. ..... Cmtd. csg. 785 ft.
E. V. Parsons et al's No. 1 Foster Lbr. Co., Ann Holhausen Sur., 750 varas S line, 3,700 varas W of E line ..... Derrick.
Thomas et al's No. 1 A. Ercke, 600 ft. E of W line, 3,350 ft. N of S line, A. H. Ercke Sur. in Reason & Green Sur. ..... Drlg. shale 4,650 ft.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Boker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... T.D. 6,504 ft.; fishing.
Olis Consd., Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,240 ft. NE, 350 ft. NW of S cor. ..... Drlg. shale 5,212 ft.
United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye townsite ..... T.D. 7,872 ft.; set whipstock 7,512 ft.
United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... O.S. 8,169-79 ft.; csg. cmtd. at 8,165 ft.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. ..... Drlg. shale 4,416 ft.
Derring & Frazier's No. 1 Rolph, H. Blood Sur., 660 ft. from center of survey ..... Rigging.
Sutton & Hawkins' No. 2 Foster est., 90 ft. E of No. 1, A. M. Del Garza Sur. ..... Drlg. shale 1,179 ft.
Turnbull & Erwin's No. 1 B. C. Ayler, E. Yotaw Sur., 600 ft. out of N cor. of B. C. Ayler 1,938-ac. tract.. Drlg. shale 3,904 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line, 150 ft. from NE cor. of Godwin 20-ac. tract ..... Rigging.
Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 68, 10,500 ft. E at R/A.... T.D. 1,197 ft.; standing.

POLK COUNTY

D. B. McCall's No. 1 Faulkner, 350 ft. W of center of E line of 200-ac. tract, G. B. Dikes Sur. ..... Drlg. shale 1,015 ft.
Dick Schwab's No. 2 Kirby, G. S. Thomas Sur., 330 ft. out of SW cor. of 250-ac. tract, of 500-ac. tract..... Rigging.

REFUGIO COUNTY

C. B. Bunte et al's No. 1 F. B. Rooke, J. M. Aldritte Sur., CWL of Sec. 4 ..... Drlg. shale 3,850 ft.
Humble O. & R. Co.'s No. 10 O'Connor, Powers & Hewitson Sur., 15,133 ft. N of S line, 7,302 ft. W of E line, of J. Keating Sur. ..... Drlg. sand 3,085 ft.
Texas Co.'s No. 1 Rooke, J. M. Aldritte Sur., 7,500 ft. S 53 deg. W, 850 ft. 37 deg. W of N cor. survey.... Drlg. sandy shale 6,171 ft.
Wellington Oil Co.'s No. 1 Roach, R. J. Downey Sur., 1,250 ft. NW line, 515 ft. NE line of Tract No. 1.... Abd. 6,015 ft.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 2 Foster Lbr. Co., 330 ft. each way out of NE cor., Geo. Taylor Sur. ..... Moving in material.
Turnbull & Irwin's No. 1 J. J. West, J. Rankin Sur., center 25-ac. tract ..... Drlg. shale 3,261 ft.

TRINITY COUNTY

T. M. Smith et al's No. 1 C. Moody, E. Roberts Sur., 552 ft. W of E line, 1,202 ft. N of S line, of 40-ac. tract ..... Drlg. shale 1,637 ft.

TYLER COUNTY

Marshall & Denton's No. 1 Seman, G. W. Banlick Sur., Abstract No. 654, SW cor. of 320-ac. tract ..... Drlg. shale 1,699 ft.

VICTORIA COUNTY

J. F. Camp's No. 1 Maurer, 330 ft. NE cor. Maurer's 178 acres, R. Manchola Sur. ..... D.S. test at 4,441-47 ft.; trace oil; drlg. shale 4,456 ft.
Stoneleigh O. & G. Co.'s No. 1 Dietzel, 330 ft. out of NW cor. of Dietzel's 95-ac. tract, R. Manchola Sur.. Drlg. shale 4,115 ft.
Stoneleigh O. & G. Co.'s No. 2 E. B. Terrell, 330 ft. out of SE cor. of Terrell's 215-ac. tract, R. Manchola Sur. ..... Moving in derrick.
Stoneleigh O. & G. Co.'s No. 1 Trybble, 330 ft. out of SE cor. Trybble's 122-ac. tract, R. Manchola Sur.. Moving in derrick.
Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray ..... Gas sand 3,039-49 ft.; pumping wtr. and mud into sand to kill pressure.
Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at R/A from NE cor. of A. J. Gray Sur. ..... T.D. 1,176 ft.; blowing gas and mud.
Texas Co.'s No. 7-A McFaddin, 250 ft. due N of No. 7, A. J. Gray Sur. ..... Drlg. shale 1,599 ft.
Texas Co.'s No. 8 McFaddin, A. J. Gray Sur., 6,600 ft. N of S line, 1,383 ft. from E line of NE cor. ..... Standing 232 ft.

WALKER COUNTY

McDowell et al's No. 1 Thompson, Jackson Crouch Sur., 330 ft. E of W line, 1,020 ft. S of N line.... Rigging.

WALLER COUNTY

Hobson & Moore's No. 1 Peters, Justo Liendo Sur., 590 ft. W of creek and 1,144 ft. N of S cor. ..... Drlg. sand 5,458 ft.; S.O.

WHARTON COUNTY

Harvey & Rusk's No. 1 Reid, 1,000 ft. SW, 500 ft. SE from N cor. of lease, Francis Biggam Sur. ..... Derrick.
Monarch Oil Co.'s No. 1 Schateck, 150 ft. each way out of SW cor. G. W. Reynolds Sur. ..... Drlg. shale 2,512 ft.
Nabert et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... Standing 5,026 ft.
Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... T.D. 6,343 ft.; standing.
Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 3,575 ft. SE, 1,690 ft. NE from W cor. Sec. 28.. Shale 7,378 ft.; standing.
Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. Sec. 25, Morris & Cummings Sur. ..... Cmtd. csg. 5,954 ft.; standing.
Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,183 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Cmtd. csg. 7,113 ft.; standing.
Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Drlg. shale 6,848 ft.
Pure Oil Co.'s No. 1 Willis McIntyre, 1,650 ft. S of N line, 1,759 ft. S of E line of section ..... Cmtd. csg. 6,180 ft.; standing.
Pure Oil Co.'s No. 1 Wallace Houston, 858 ft. SE of NW line, 1,690 ft. NE of SW line, Sec. 28, (T. W. Heard Sur.) ..... Sand 6,441-51 ft.; blowout killed; erecting new derrick; making 1,000 bbls. net oil and 44% wtr.; and 100,000,000 ft. gas.
Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section ..... T.D. 6,181 ft.; standing.
Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Tested S.W. at 6,196 ft.; standing.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 49)

Helena O. & G. Co.'s No. 1 J. W. Tatum, 330 ft. N and W, SE cor. NE SE Sec. 9-9-13 ..... Testing 1,546 ft.
Helena O. & G. Co.'s No. 1 E. K. Harris, 990 ft. S and W, C Sec. 10-9-13 ..... S.D. 1,955 ft.
R. P. Holland's No. 1 Harris, 587 ft. N, 530 ft. E, SW cor. SE NW Sec. 10-9-13 ..... Rigging up.
Mamie S. Hammond's No. 1 Patrick, 330 ft. N, 2,310 ft. W, SE cor. Sec. 1-9-13 ..... T.A. 3,235 ft.
R. P. Holland et al's No. 1 A. J. Burkett, 990 ft. N, 330 ft. W of C, Sec. 10-9-13 ..... Set 6-in. 1,490 ft.
Lula M. Layton's No. 1 Henderson, 330 ft. N, 990 ft. E, C Sec. 29-9-13 ..... Set 6-in. 1,502 ft.
H. C. Lessinger's No. 1 Bowman-Hicks Lbr. Co., 338 ft. S and E, NW cor. SW Sec. 13-9-13 ..... S.D. 3,305 ft.
Miles & Strickland's No. 1 Ross & Son, 150 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... Set 10-in. 43 ft.; drlg. 600 ft.
Joe Modisette's No. 4 Frost Lumber Co., 990 ft. W, 330 ft. from C Sec. 21-9-13 ..... W.O.S.R. 1,980 ft.
John W. Moffett's No. 1 Logan Oil Co., Sec. 3-9-13..... Set 6-in. 1,748 ft.

C. L. Nixon's No. 1 Patrick, Sec. 21-9-13 ..... Drlg. 1,980 ft.
L. L. Posey's No. 1 A. J. Burkett, 330 ft. N and W, SE cor. S½ NE NW Sec. 10-9-13 ..... Running tubing 1,838 ft.
Sabine Royalties Co.'s No. 1 Graham, 330 ft. N and W, SE cor. W½ NW Sec. 20-9-13 ..... Set 10-in. 40 ft.; set 6-in. 1,495 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Bowman-Hicks, 295 ft. N, 440 ft. E, SW cor. SW NW Sec. 28-9-13 ..... Tested dry 2,020 ft.
Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-12 ..... S.D. 40 ft.
Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Location.

SABINE—ZWOLLE

H. C. Maulding's No. 1 Alford, 330 ft. S and W, NE cor. NW NW Sec. 18-7-10 ..... Derrick.
H. C. Maulding's No. 1 Van Vickhaven, 330 ft. N and W, SE cor. NE Sec. 3-7-11 ..... S.D. rig repairs 500 ft.

WEBSTER PARISH

J. P. Evans' No. 1 Burson, 350 ft. N and E SW cor. NW SE Sec. 27-18-9 ..... Dry and abd. 3,515 ft.

Arkansas

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 ..... Drlg. 2,891 ft.
O. F. Whittaker's No. 1 Garner, C SW NE Sec. 11-15-20 ..... Set 6-in. 2,089 ft.; T.D. 2,093 ft.

CONWAY COUNTY

Sou. Union Gas Co.'s No. 1 Feldman, C SW SW Sec. 6-6-17 ..... S.D. for wtr. 60 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Rigging up.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26 ..... Set 8-in. 885 ft.; T.D. 945 ft.; (corrected).
Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 ..... Derrick abd.

LAFAYETTE COUNTY

George W. Harper's No. 2 Bodcaw, 150 ft. S, 550 ft. E NW cor. SW NW Sec. 16-15-22 ..... Testing 1,198 ft.

LITTLE RIVER COUNTY

M. E. Sanderson's No. 1 Hale, Sec. 22-12-29 ..... S.D. 1,851 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, 300 ft. S and E, NW cor. NW NW Sec. 18-2s-7 ..... Drlg. 820 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... Recmtng. 6-in. 2,804 ft.
C. E. Murdock's No. 1 Smith (formerly Baker & McMurray), 150 ft. N and W, SE cor. SE SW Sec. 33-15-26 ..... Coring 2,808 ft.
Texarkana Oil Corp.'s No. 2 E. L. Beck, 240 ft. N, 450 ft. E, SW cor. SW SE Sec. 33-15-26 ..... Derrick.

OUACHITA COUNTY

J. E. Crosbie's No. 1 C. Primm, Sec. 23-15-16 ..... Set 10-in. 103 ft.; drlg. 1,150 ft.
F. G. Harrell's No. 1 Poindexter, 330 ft. S and E NW cor. Sec. 35-15-18 ..... Set 6⅝-in. 2,300 ft.; T.D. 2,390 ft.
J. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15 ..... Pumping 15 bbls. 2,040 ft.

POINSETT COUNTY

Ark. State O. & G. Co.'s No. 1 fee, C NE NE Sec. 13-11-3e ..... Set 10-in. 300 ft.; drlg. 550 ft.

UNION COUNTY

E. R. Henderson's No. 2 J. H. Ogden, 330 ft. S and E, NW cor. SW SE Sec. 32-18-14 ..... W.O.S.R. 2,208 ft.
Marine Oil Co.'s No. 2 Union Sawmill Co., 330 ft. S and E, NW cor. SE SE Sec. 3-18-13 ..... Coring 3,510 ft.
Chas. Steele's No. 1 J. B. Combs, 150 ft. N, 185 ft. W, SE cor. SW NW Sec. 25-18-16 ..... Rigging up.

WOODRUFF COUNTY

John Wadkins' No. 1 Rosser, Sec. 7-5n-2w ..... S.D. 1,300 ft.

Mississippi

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-2n-14 ..... S.D. 3,010 ft.

MADISON COUNTY

H. A. Wilson, tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... S.D. 1,950 ft.

NEWTON COUNTY

Bod Dalton et al's No. 2 Majurs, SE SE Sec. 25-6-11 ..... Drlg. 2,983 ft.

RANKIN COUNTY

Hill Bros. and Cleve Love's No. 1 Lancaster, C SW NW Sec. 27-5-5e ..... Rigging up.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Drlg. 1,620 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER PARISH

Company, well, farm name, section and block— Remarks:
United Gas Public Service Co.'s No. 1 Skannell unit, 1,317 ft. N, 1,274 ft. E, SW cor. Sec. 13-17-12 ..... Well killed; D.S. stuck 3,220 ft.

CADDO PARISH—BETHANY

Calatex O. & G. Co.'s No. 1 Taylor, SW SE Sec. 34-17-16. S.W. and abd. 2,992 ft.

CADDO PARISH—BLANCHARD

Louana O. & G. Co.'s No. 2 Hammock, C SW SE Sec. 32-19-16 ..... Rigging up.

CADDO—RODESSA

R. W. Norton's No. 1-B J. B. French, 660 ft. S and E, NW cor., Sec. 34-23-16 ..... Fishing 2,983 ft.

CADDO—PINE ISLAND

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. NW Sec. 15-20-15 ..... S.D. 41 ft.

CADDO—HOSSTON

C. D. Whittaker et al's No. 2 Barker, 1,150 ft. N, 1,900 ft. E, SW cor. Sec. 21-22-15 ..... S.D. 1,015 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 26-12-12 ..... Rig up.

MOREHOUSE PARISH

United Carbon Co.'s No. 1 Montgomery, 1,329 ft. S, 2,268 ft. E of C Sec. 9-21-51 ..... Drlg. 2,250 ft.

OUACHITA PARISH

Hatcher & Evans' No. 9 Hatcher, 1,390 ft. S, 1,950 ft. E, NW cor. Sec. 17-19-4e ..... Set 8-in. 780 ft.; drlg 2,983 ft.

SABINE PARISH—ZWOLLE

J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11 ..... Running tubing 2,508 ft.
Crescent Drlg. Co.'s No. 1-A Billbray, 330 ft. S and E, NW cor. NW, NE Sec. 32-8-11 ..... Tested dry; S.D. 2,525 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.
Magnolia Pet. Co.'s No. 1 Semon Lilly, NE cor. SE NW Sec. 8-7-11 ..... Rigging up.
Magnolia Pet. Co.'s No. 2 Gindratt, 330 ft. N, 320 ft. E, SW cor. SE Sec. 30-8-11 ..... T.A. 2,485 ft.
Pelican Nat. Gas Co.'s No. 26 La. Long Leaf, SW NW Sec. 29-8-11 ..... Set 6-in. 2,231 ft.
Pelican Nat. Gas Co.'s No. 25 La. Long Leaf, 584 ft. S, 300 ft. E, NW cor. NE NE Sec. 31-8-11 ..... Comp. flowing 420 bbls.; 2,600 ft.
Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11 ..... Bailed dry; W.O. 2,750 ft.
Pelican Nat. Gas Co.'s No. 10 Sabine Lbr. Co., 330 ft. S and W NE cor. SE NE Sec. 7-7-11 ..... Flowing 500 bbls.; 2,315 ft.
Pugh-Hickman's No. 8 Stille, 330 ft. S and E, NW cor. Sec. 16-7-11 ..... Set 10-in. 40 ft.
Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11 ..... Derrick.
C. T. Ruffin's No. 1 Sabine Lbr. Co., 330 ft. N, 80 ft. W, SE cor. NE NE Sec. 7-7-11 ..... Tested dry 2,389 ft.
C. T. Ruffin's No. 1 McNeely, 510 ft. S, 330 ft. W, NE cor. NE NE Sec. 7-7-11 ..... Using acid 2,550 ft.
Service Drlg. & Royalty Co.'s No. 1-B Smith, 990 ft. S and W, C Sec. 7-7-10 ..... Rigging up.
L. J. Tillery's No. 1 Sabine Lbr. Co., 300 ft. S, 220 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11 ..... Set 10-in. 40 ft.; drlg. 1,858 ft.

UNION PARISH

Southern Carbon Co.'s No. 63 fee, 660 ft. S, 660 ft. E of center Sec. 7-20-4e ..... Drlg. plug 2,099 ft.

Mississippi

HINDS COUNTY

B. B. Jones' No. 1 McRae, 580 ft. W, 540 ft. N, SE cor. SW NW Sec. 24-7n-1w ..... Drlg. 1,910 ft.
B. B. Jones' No. 1 Stone, 500 ft. S, 100 ft. E, NW cor. Sec. 18-5n-3e ..... Drlg. wtr. well.
Love & Lancaster's No. 2 Elton plantation, NE Sec. 9-4-1e ..... S.D. 5 ft.
Meredith Trading Co.'s No. 1 Nelson et al, 630 ft. E, 330 ft. S, NW cor. SW SE Sec. 24-6-1e ..... S.D. for csg. 2,431 ft.

RANKIN COUNTY

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e ..... Rigged up.
Cleve Love et al's No. 1 Thomas, SW Sec. 10-4-1e ..... Drlg. 3,452 ft.

East Texas (Border Counties)

MARION COUNTY

Perry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... S.D. 1,400 ft.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Fishing 1,850 ft.
M. H. Robbins et al's No. 1 Alzee Williams, 165 ft. N and E, SW cor. 30-ac. tract in Winnie Mann Sur. ..... Coring 2,099 ft.
C. R. Obermeyer et al's No. 1 T. J. Wooten, P. Martin Sur. ..... S.D. 2,110 ft.

Wildcat Operations in Southwest Texas

(Continued from Page 50)

W. L. Umburn's No. 1 Otto Jackel, 150 ft. from S and E lines of Jackel 391-ac. tract in Samuel McCulloch Sur. No. 54 ..... Spudded in.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 58, 4 miles NW of Johnson City ..... T.D. 860 ft.; drlg.
Isham et al's No. 1 Lester ranch, 200 varas from N and E lines of Antonio Bandrand Sur., 8 miles NE from Johnson City ..... T.D. 405 ft.; S.D.

CALDWELL COUNTY

E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 165 ft. from NW line of tract ..... T.D. 1,961 ft.; S.D.
F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line and road in J. H. Lawler's 134-ac. tract in James Berry Sur. ..... Rigging up.

DUVAL COUNTY

Bridwell Oil Co.'s No. 1 C. W. Hahl, 200 ft. from S and W lines of Blk. 29 in C.B.&C.N.G. Sur. No. 250.. T.D. 2,285 ft.; coring.
Eaton et al's No. 1 Herbst, 1,650 ft. from E line, 330 ft. from S line in S.A.&M.G. Sur. No. 71 ..... Dropped till work is resumed.
O. W. Killam's No. 3 Wood-Welder, 6,123 ft. from S line, 200 ft. from W line in Sur. No. 102 ..... T.D. 1,486 ft.; tested failure; D.D.
O. W. Killam's No. 4 Wood-Welder, 500 ft. from N line, 200 ft. from W line in Sur. No. 102 ..... T.D. 1,480 ft.; drlg.
G. G. Mortimer's No. 2 Peal, 330 ft. from S and E lines of W½ of Sur. No. 796 .. .. T.D. 2,165 ft.; drlg.
W. A. Smith's No. 1 Holzapfel, west central part of lease, 900 ft. W of NE cor. of Sur. 344 and 159 ft. from N line of Sur. No. 42 ..... T.D. 1,610 ft.; drlg.
Trinity Drillers' No. 1 Hagist, 1,650 ft. from S line, 2,310 ft. from E line of B.B.B.&C. Sur. No. 1 ..... T.D. 2,500 ft.; abd.
Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... T.D. 1,502 ft.; standing.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs ..... T.D. 2,900 ft.; drlg.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Marcia Louisa Carranza Sur. No. 302 ..... T.D. 6,064 ft.; fishing.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg ..... T.D. 1,800 ft.; dry and abd.

GONZALES COUNTY

Volz & Shelling's No. 1 Bennett Botts et al, 150 ft. from W line, 800 ft. from N line of 420-ac. tract, lease in Gonzales Sur. ..... T.D. 500 ft.; drlg.

GUADALUPE COUNTY

A. F. Barnhill's No. 3 F. A. Phuliman, 1,300 ft. from N line, 152 ft. from E line of lease in L. Bollinger Sur. ..... Rigging up.
Potter et al's No. 1 Greenwood est., 470 varas from W line, 940 varas from NW line of Archibold Gibson Sur. ..... Rigging up.
L. E. Trout's No. 1 Mrs. M. McKee, 650 ft. from W and 150 ft. from N line of 239-ac. tract in Green Dewitt Sur., 4 miles SW from Darst Creek ..... Delayed finding a contractor.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred ..... Rigging up.
Trinity Drillers' No. 1 Seeligson, 330 ft. from N and E lines of Sec. 71, of R. P. Haldeman Subd., and in S.K.&K. Sur. No. 215 ..... T.D. 3,012 ft.; testing sand.

KARNES COUNTY

Arrowhead Drlg. Co.'s No. 1 Rudd, 1,320 ft. from S and E lines of 524-ac. tract in Adriance Sur. ..... T.D. 1,982 ft.; standing in shale.
C. J. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur. ..... T.D. 1,645 ft.; drlg.

KENDALL COUNTY

A. P. Pierce's No. 1 Werner, in SW cor. of 40-ac. tract, 150 ft. from S and W lines, in J. F. Torrey Sur. .... T.D. 570 ft.; drlg. shale
W. E. Waldrip's No. 1 Charles Meckel, 300 ft. from E line, 8,300 ft. from S line of Thos. J. Sweeney Sur. No. 10 ..... T.D. 415 ft.; W.O.C.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,885 ft.; standing in shale and sand.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 ..... T.D. 1,040 ft.; standing.

LA SALLE COUNTY

Equity Oil Co.'s No. 1 Rogers, 202 ft. from E line, 455 ft. from S line of lease in Atascosa County School Land Sur. No. 300 ..... T.D. 310 ft.; moving in heavier rig.

W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 2,205 ft.; standing.

LIVE OAK COUNTY

S. B. Hood's No. 1 Byler, 150 ft. from NW and NE lines of Sur. No. 91 ..... Derrick up and slush pits dug.

McMULLEN COUNTY

Armoil Prod. Co.'s No. 1 Kate Martin, 1,470 ft. from SE line, 1,470 ft. from SW line of H.T.&B. Sur. No. 9 ..... T.D. 900 ft.; S.D. over week-end for fuel; showed oil, gas and S.W. at 700 ft.

Paul C. Teas' No. 3 Hagist, 330 ft. from N and W lines of Sec. 19 ..... T.D. 1,936 ft.; fishing.

Pitkin-Goldston Oil Co.'s No. 1 Hagist, 330 ft. from N line, 900 ft. from E line of G. B. McKinney Sur. No. 467 ..... T.D. 1,925 ft.; drlg.

Two Rivers Oil Co.'s No. 1 H. F. G. Wulf, 330 ft. from N and E lines of SW Sec. 73, of Two Rivers Ranch Subd. ..... T.D. 300 ft.; drlg.

MEDINA COUNTY

O. R. Framme's No. 1 E. Boelke, 987 ft. from N line, 600 ft. from E line of 102-ac. tract in S. Huth Sur. No. 10 ..... T.D. 400 ft.; S.D.

MILAM COUNTY

B. F. Robinson's No. 1 W. M. Caffey, 150 ft. N and E, of SE cor. of B. F. Duncan Sur. in SW cor. of 50-ac. Caffey tract in J. Bright Sur. ..... Spudded in.

NUECES COUNTY

Banquette Oil Co.'s No. 1 T. C. Ingram, 330 ft. from N and W lines of 80-ac. tract, Blk. 6, Sec. 7, of S. R. Peters Sur. ..... T.D. 4,882 ft.; tested 50 bbls. oil; 1,700 lbs.; 4,900 ft. of gas to bbl. of oil on ¼-in. choke.

Benedum & Trees' No. 1 J. O. Pickham, 1,812 ft. to S line, 400 ft. E of 204-ac. tract in G. Faris Sur. ..... T.D. 6,000 ft.; drlg.

A. C. Erwin's No. 1 Sagarin, 520 ft. from N, 160 ft. from E line of 35-ac. tract in Sec. 4, H. L. Kenney Sur. ..... T.D. 4,408 ft.; drlg.

S. F. Huribut and Southwest Oil Co.'s No. 1 Poenisbch, center Blk. 2, Sec. 32, Flowerbluff & Encinal farm, 8 miles S from Corpus Christi ..... T.D. 6,100 ft.; drlg.

Texon Royalty Co.'s No. 1 McCoy, 330 ft. from W line, 2,830 ft. from S line, in Sec. 3 of Palo Alto Sur. ..... T.D. 5,003 ft.; P.B. to test sand at 4,800 ft.; then to drill to 6,500 ft.

STARR COUNTY

Accumulative Royalty Co.'s No. 1, Martinez, 800 ft. from S line, 500 ft. from W line of C.C.S.D.&R. G.N.G. Sur. No. 217 ..... T.D. 2,780 ft.; drlg.

Goodwin & Yantis' No. 8 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... T.D. 1,040 ft.; standing.

Goodwin and Yantis' No. 3 Walker, 3,000 ft. from S line, 2,000 ft. from W line of Sur. No. 767 ..... T.D. 2,450 ft.; drlg.

Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 ..... T.D. 2,475 ft.; drlg.

R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,090 ft. from W line, 2,480 ft. from S line of Sur. 933 ..... T.D. 80 ft.; standing.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 ..... T.D. 925 ft.; drlg.

Fritz Fuch's No. 2-B Smith est, 900 ft. from NW line, 300 ft. from W line of Blk. 16, L. Kimbro Sur. ..... Rigged up and standing.

Marts & Beavens' No. 1 Sandahl, 150 ft. from N and E lines of 100-ac. tract in Thos. Smith Sur. ..... T.D. 200 ft.; drlg.

Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2 ..... T.D. 248 ft.; standing.

UVALDE COUNTY

Frank A. Brown's No. 1 Milliken, 1,800 varas from W line which is Sabinal River, and 108 varas from S line of Antonio Cruz Sur. No. 383 ..... T.D. 300 ft.; drlg.

WEBB COUNTY

Frank Garvis' No. 1 Yeager-Stroman, 200 ft. from S line, 450 ft. from E line of Share 5 in Los Animas grant ..... T.D. 2,198 ft.; standing.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig ..... T.D. 1,550 ft.; fishing.

R. L. Batts et al's No. 1 Rumel, 18 ft. from E line, 480 ft. from S line of 100-ac. tract in Booth Sur. ..... T.D. 1,300 ft.; fishing.

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. ..... T.D. 2,265 ft.; standing.

Pederson's No. 1 Forwood, 900 ft. from N and 1,200 ft. from E line of 160-ac. tract in Fisher Sur. ..... T.D. 950 ft.; no report.

ZAPATA COUNTY

F. G. Delaney's No. 1 Leonard Haines estate, 330 ft. from SE line, 2,976 ft. from SW line of Villa Grant Sur. ..... Rigging up.

Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant ..... T.D. 1,742 ft.; standing.

J. P. Doyle's No. 1 I. Ramires, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 ..... Spudded in and S.D.

Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Por. 34 ..... T.D. 770 ft.; standing.

Arthur H. Wray's No. 3 Gopher Trust Estate, 660 ft. from SW line, 330 ft. from SE line of Blk. 13, Sur. 1, Fullerton Subd. of Share 9 ..... T.D. 360 ft.; drlg.

Southwest Texas Proven Areas

Week Ending December 2

NORTH DALE POOL—BASTROP COUNTY

Marts & Beavens' No. 1-B C. L. Riddle, 525 ft. from NW line, 2,176 ft. from SW line of John Maxmillian Sur. No. 22 ..... T.D. 2,107 ft.; drlg. pluga.

Ogden & Reed's No. 2 Tally, SE cor. of tract in J. Gray Sur. ..... T.D. 2,255 ft.; dry and abd.

Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Gray Sur. ..... T.D. 2,257 ft.; setting csg.; S.O. at 2,113-20 ft.

PETTUS POOL—BEE COUNTY

United Prod. Co.'s No. 3 Ray, 3,338 ft. from N line, 958 ft. from E line of Moore Sur. ..... T.D. 6,054 ft.; W.O. job; being PB. to Pettus sand at 4,054 ft.

EAST COLE POOL—DUVAL COUNTY

Cole Pet. Co.'s No. 2 S. Benavides, 350 ft. from SE line, 300 ft. from SW line of Blk. 347 Hale Subd. of Arispe grant ..... Rigging up.

Motes-Campbell's No. 1 Brunl, 150 ft. from NE and SE lines of Sec. 493, Myrtle E. Hale Subd., Mariano Arispe grant ..... T.D. 20 ft.; spudded; waiting for wtr.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 3 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur. ..... T.D. 630 ft.; drlg.

F. H. Eckert & Son's No. 3 Louis Brehm, 550 ft. from W line, 150 ft. from S line of 93-ac. tract in P. L. Buguor Sur. ..... Drlg.

F. H. Eckert & Son's No. 4 August Brehm, 250 ft. from E line, 300 ft. from N line of tract in Buquor Sur. ..... T.D. 1,250 ft.; drlg. chalk; S.G.

Gatlin Oil Co.'s No. 17 Mrs. Ida Beck, 565 ft. from NE line, 150 ft. from SE line of tract in Juan Montes Sur. ..... T.D. 687 ft.; running 6¾-in. csg.

J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montes Sur. ..... T.D. 750 ft.; drlg.

Rosate & Co.'s No. 11 J. E. Halbardier, 400 ft. E of No. 10 in J. M. Perez Sur. ..... T.D. 710 ft.; bailing.

S. J. Moore's No. 2 T. W. Masterson, 150 ft. from S line, 175 ft. from W line of 41-ac. tract in Miguel Gortaris Sur. ..... T.D. 200 ft.; spudded in.

Swearingen Oil Co.'s No. 16 Halbardier, 150 ft. from N line of tract, 2,625 ft. E of NW cor. of survey in Jose M. F. Perez Sur. No. 67 ..... Rigging up.

Trio Oil Co.'s No. 5 Sandemer, 200 ft. from E line, 150 ft. from S line of 109-ac. tract in Anton Manchaca Sur. No. 51 ..... T.D. 350 ft.; drlg.

VON ORMY POOL—BEXAR COUNTY

A. J. Trawalter's No. 1 fee, 1,300 ft. from N line, 1,009 from W line of Flores Dessendier 202-ac. tract in Stephen Jett Sur. No. 53 ..... T.D. 621 ft.; tested ½ bbl. daily; abd.

Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 657-ac. tract in F. Rolen Sur. ..... Derrick; laying wtr. line.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 1-B J. M. Price, 150 ft. from NE and SE lines of J. M. and O. Pierce 100-ac. tract in S. Seal Sur. ..... T.D. 2,465 ft.; drlg.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster O. & G. Co.'s No. 2 McCroy, 750 ft. from S line, 150 ft. W of NE cor. of tract in John A. Neill Sur. ..... T.D. 2,100 ft.; drlg. shale.

EAGLE HILL POOL—DUVAL COUNTY

Al Buchanan's No. 1 Foster, 330 ft. from N line of S½ of Sur. 206, and 330 ft. from E line of lease ..... T.D. 1,497 ft.; carried by operator as No. 1 Foster.

R. D. Kelley's No. 2 Foster, 1,650 ft. from E line of survey, and 990 ft. S of N line of S½ of Sur. No. 206 R.U.; reported in error as drlg. at 1,300 ft.

Texas Co.'s No. 5-A Duval County Ranch Co., 330 ft. from S line, 1,650 ft. from E line of N½ of N½ of Sur. No. 206 ..... T.D. 1,497 ft.; comp. 10 bbls. hrly.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 23 Hahl, 1,046 ft. from S line, 339 ft. from W line of Sur. No. 74 ..... T.D. 2,336 ft.; comp. 25 bbls.

Humble O. & R. Co.'s No. 24 Hahl, 3,082 ft. from S line, 990 ft. from W line of Sur. No. 74 ..... T.D. 2,323 ft.; flowing 50% S.W.; pulling tubing and liner; to P.B.

Humble O. & R. Co.'s No. 2 Duval County Ranch Co., 330 ft. from S line, 990 ft. from W line of NW of Sur. No. 362 ..... T.D. 1,550 ft.; drlg.

K. O. T. Oil Co.'s No. 2 Lundell, 150 ft. from S and E line, N½ of SW of 40-ac. tract in Sec. 48 ..... Spudded in.

Magnolia Pet. Co.'s No. 7 Duval County Ranch Co., 990 ft. from W line, 330 ft. from S line of Sur. 208 ..... T.D. 2,328 ft.; comp. 200 bbls. dly.

Magnolia Pet. Co.'s No. 8 Duval County Ranch Co., 330 ft. from E line, 990 ft. from S line of Sur. No. 208 ..... T.D. 2,314 ft.; set csg.; W.O.C.

Magnolia Pet. Co.'s No. 3 Lundell, 330 ft. from S line, 150 ft. from W line of SE of Sur. No. 60 ..... T.D. 2,250 ft.; standardizing.

Navarro Oil Co.'s No. 27 Hahl, 1,650 ft. from S and E lines of W½ of Sur. No. 360 ..... T.D. 3,100 ft.; coring; will test Pettus.

Russ Pet. Co.'s No. 3 Riley, 965 ft. from S, 150 ft. to E lines of SW of NW of Sur. No. 46 ..... T.D. 2,274 ft.; set csg.; W.O.C.

Rodney DeLange's No. 2 Lundell, 660 ft. from E line, 480 ft. from S line of SE SW of Sur. No. 60 ..... Rigging up.

Reynosa Oil Corp.'s No. 6-A Duval Ranch Co., 330 ft. from N and E lines of N½ of SW of Sur. No. 362 ..... T.D. 1,815 ft.; drlg.

Reynosa Oil Co.'s No. 2-D Duval County Ranch Co., 330 ft. from S and W lines of S½ SW Sur. No. 362 ..... T.D. 2,309 ft.; comp. 40 bbls. hrly.

Sun Oil Co.'s No. 9 Weiderkehr, 990 ft. from N line, 300 ft. from E line of Sur. No. 359 ..... T.D. 2,318 ft.; comp. 12 bbls. hrly.

Sun Oil Co.'s No. 13 Weiderkehr, 1,650 ft. from N line, 330 ft. from E line in Sur. No. 361 ..... T.D. 2,261 ft.; testing.

Sun Oil Co.'s No. 12 Weiderkehr, 990 ft. from E line, 330 ft. from N line of Sur. No. 361 ..... T.D. 2,307 ft.; P.B. to 2,282 ft.; W.O.C.

Texas Co.'s No. 6 W. C. Riggs, 330 ft. from S and W lines of E½ NW of Sur. No. 46 ..... T.D. 2,295 ft.; comp. 60 bbls. dly.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 13 Paul White, 2,300 ft. from E line, 300 ft. from N line of Sur. No. 249 ..... T.D. 2,267 ft.; swabbing.

Humble O. & R. Co.'s No. 12 Paul White, 1,650 ft. from S and E lines of Sur. No. 249 ..... T.D. 2,288 ft.; flowing by heads; small well.

S. R. C. POOL—DUVAL COUNTY

S. R. C. Oil Co.'s No. 10 Duval County Ranch Co., 100 ft. from S line, 1,152 ft. from E line of Sur. No. 295 ..... T.D. 235 ft.; drlg.

PALANGANO POOL—DUVAL COUNTY

J. W. Edwards' No. 1 Gravia, 1,670 ft. from NE line, 1,830 ft. from SE line of Sur. No. 2 ..... T.D. 1,030 ft.; sticky shale.

NEW BERLIN POOL—GUADALUPE COUNTY

J. A. Harper's No. 2 Rosenbrook, 660 ft. SW of No. 1 ..... T.D. 595 ft.; set csg.

JACOBS POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 18-A Jacobs, 660 ft. S of No. 11, in W. H. Jacobs Sur. No. 8 ..... Derrick.

Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,030 ft.; C.O

Kennon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,033 ft.; set csg.; W.O.C.

AGUA DULCE POOL—NUECES COUNTY

Garland Clymore's No. 1 Ollie Purl ..... Spudded in.

CUEVITAS POOL—STARR COUNTY

Mims, Hamill & Evans' No. 1 M. Guerra, 330 ft. from E line, 330 ft. from S line of Share M-10, in Las Cuevitas grant ..... T.D. 1,350 ft.; drlg.

Wm. McGinley's No. 2 Guerra, 330 ft. from SW and NW lines of Blk. 22 of McGinley Subd. of Porcion No. 110 ..... T.D. 1,660 ft.; drlg.

Sun Oil Co.'s No. 9-A Guerra, 4,620 ft. from NW line, 660 ft. from SW line of Share H-14-B of Cuevitas grant ..... Derrick.

Sun Oil Co.'s No. 1-D Guerra, 6,353 ft. from NE line, 3,300 ft. from SE line of La Sacatosa grant ..... Rigging up.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas Oil & Gas Trust's No. 11 Benavides, 150 ft. from S line, 600 ft. from W line of Blk. 12 in Sur. No. 682 ..... T.D. 2,192 ft.; testing sand.

BYERSVILLE POOL—WILLIAMSON COUNTY

Fritz Fuch's No. 1 C. W. Johnson, 600 ft. from SE line, 700 ft. from NE line of tract in P. Cartwright Sur. ..... Rigged up.

Taylor Prod. Co.'s No. 1 J. S. Jones, 450 ft. from NW and SW lines of Jones' 400-ac. tract in H. White Sur. ..... Rigged up.

ESCOBAS POOL—ZAPATA COUNTY

W. E. West and J. P. Perry's No. 1 Garcia, 1,200 ft. from NW line, 200 ft. from NE line of Share 3 of Comitas grant ..... Drlg. 225 ft.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant ..... T.D. 4,476 ft.; P.B. to 1,369 ft.; W.O.C.

MARTINEZ POOL—ZAPATA COUNTY

W. R. Shankle and Wm. McGinley's No. 1 Manuel T. Heirs, 330 ft. from E line, 300 ft. from S line of Blk. 16 in Sur. No. 411 ..... T.D. 1,857 ft.; testing.

United Prod. Co.'s No. 2 Henne-Winch, 660 ft. from S line, 150 ft. from W line of Blk. 4, Sur. No. 386 ..... T.D. 1,707 ft.; comp. 10,000,000 ft. gas.